The Veterinary Record.

(Founded by William Hunting, F.R.C.V.S., 1888.)

No. 6. FEBRUARY 9, 1929. VOL. 9.

VETERINARY RESEARCH AND ADMINISTRATION IN THE COLONIES.

REPORT OF THE LOVAT COMMITTEE.

In July, 1927, the Secretary of State for the Colonies appointed a Committee, with the following terms of reference :—

"To frame proposals for obtaining the highest degree of efficiency in regard to Veterinary Research and Administration in the non-self-governing Dependencies that financial considerations permit.

"The questions to be considered would embrace the recruitment and training of Veterinary Officers, their conditions of service, the organisation of Research and Intelligence, the setting up and support of any Institutions required, and methods by which the financial expenditure involved can best be met.

"In framing their recommendations, the Committee should bear in mind that the principle of the ultimate creation of a Colonial Scientific and Research Service has been approved by the Colonial Office Conference, and that specific proposals for the formation of an Agricultural Scientific and Research Service for the non-self-governing Dependencies, with which the Veterinary Service must necessarily maintain close liaison, are now being framed."

This Committee consisted of :—

The Lord Lovat, K.T., K.C.M.G., K.C.V.O., C.B., D.S.O. (Chairman).
The Right Honourable W. Ormsby Gore, M.P.
Sir Arnold Theiler, K.C.M.G.
Professor J. B. Buxton, M.A., F.R.C.V.S., D.V.H.
Professor R. T. Leiper, M.D., D.Sc., F.R.S.
Dr. W. H. Andrews, D.Sc., M.R.C.V.S.
Dr. J. B. Orr, D.S.O., M.C., F.R.S.E.
Mr. W. C. Bottomley, C.B., C.M.G., O.B.E.
Major R. D. Furse, D.S.O.
Major G. S. M. Hutchinson (Secretary).

The unanimous report of this Committee has now been issued and in a general review of the situation, present and future, it emphasises the growing importance of veterinary activities in the Colonial Empire, not only from the point of view of the Veterinary, Medical and Agricultural Sciences, but also as an integral part of the social and economic development of the Colonies. The important rôle which the veterinarian is called upon to play, shows the necessity of attracting to the profession men of high scientific training and attainment.

It holds that veterinary problems in the tropics have not received the same attention as in temperate climates ; and Britain, which in the past has done much for tropical medicine, tropical agriculture and tropical forestry, has done little for tropical veterinary science. The non-self-governing Colonies and Protectorates have stock-rearing as one of their major industries, and losses from disease and lack of knowledge of health and nutrition, as well as absence of stock for transport and tillage, show the necessity of adequate veterinary attention.

The Committee believes that the importance of this has not received the official attention which it deserves and veterinary departments are in general neglected and under-staffed. At present there are only 127 qualified officers in the Service, or one to every 16,000 square miles, 400,000 inhabitants, or 280,000 head of stock. The entrance to the Service is low and the emoluments do not attract sufficient men of the right type and there is no provision for even a preliminary course in Tropical Veterinary Science.

It has been impressed with three outstanding defects in the Service, *viz.*, lack of an advisory authority at the Colonial Office, lack of a Central Research Station, and lack of an adequate system of supplying information to officers.

The causes of this fall under two heads. Some are local, others are due to defects in central training and organisation. Locally the problem of animal health has been insufficiently considered and starved financially ; and individuals are not always such as to command the full confidence of local governments. In the report, suggestions are made for improving the standard of recruitment and the setting up of a new central organisation which will examine problems of groups of colonies as a whole. The Colonies must make their Services more attractive ; in particular, higher salaries in the senior grades must be offered, status and prestige must be improved, while better provision should be made for supervision of work of individual officers, provision of study leave, reward of merit and promotion. The advantage of such a procedure in the Dominion of South Africa is quoted as an example.

However well local conditions may be improved, until training conditions in Britain are also improved, satisfactary progress cannot be achieved. The ordinary veterinary course is not sufficient for the Colonial Veterinary Services and a more thorough grounding in general science—especially in genetics and nutrition—as well as post-graduate instruction is necessary. The fundamental causes of this seem to be lack of funds and a certain apathy and lack of vision on the part of the State. Starved as they are of financial support and cramped aud confined in their activities, it is clearly impossible for the veterinary schools to give a training of the scope aud quality needed. The profession must needs suffer in efficiency and prestige, and consequently in the attraction it offers as a career to the youth of the country.

The Committee has found it necessary to speak strongly on this matter, because the general policy in force seems to be one of drift, and new schemes are framed merely according to available funds and not on any comprehensive plan based on a true appreciation of what is needed. It

is convinced that the problem of animal health is so important that the existing conditions both in the training institutions at home and in the Veterinary Departments of the Colonies should no longer be tolerated. In both a new policy is needed, framed on bold and comprehensive lines, supported by adequate funds, and carried through with energy and determination.

The new policy is described under seven different headings.

I. Recruitment and Training.

In addition to a satisfactory technical training, officers of the Colonial Veterinary Service must possess the personal qualifications necessary for leadership and be in other ways suitable to deal with non-European races. At present the supply of such men is insufficient and it seems desirable to frame measures to attract suitable candidates into the veterinary profession and the Colonial services.

Education.—The report reviews the present facilities for veterinary education in this country, drawing attention to the fact that the preliminary examination in general education is identical with that demanded by the General Medical Council. In addition to the Membership and Fellowship diplomas and the diploma in Veterinary State Medicine, offered by the Royal College of Veterinary Surgeons, degrees in Veterinary Sciences are granted by the Universities of Edinburgh, London and Liverpool, and a diploma in Veterinary Hygiene by Liverpool, and in Veterinary State Medicine by Manchester. Regular post-graduate courses, apart from those necessary for these diplomas, are lacking.

The Committee believes that a Colonial Veterinary Officer should have had a good all-round scientific training, a working knowledge of nutrition and genetics, and have attended a post-graduate course in Tropical Veterinary Science.

The Committee considers that facilities for teaching at most of the veterinary schools are inadequate and that insufficient numbers of the right type of men are entering the profession. To remedy this a number of important recommendations are made.

Recruiting.—The status and conditions of service in the Colonial Veterinary Departments should be raised ; public interest in the service should be stimulated, and a closer liaison should be encouraged between Schools, University Appointments Boards and Veterinary Colleges.

Training.—Holders of a degree in pure science (or its equivalent) should be encouraged to enter the Colonial Veterinary Service. Veterinary students should be encouraged to take a degree and all newly-appointed officers should undergo a course of instruction in tropical veterinary science.

II. Scholarships.

To attract more suitable candidates to what should prove a first-class service, a temporary system of scholarships is recommended—not exceeding ten yearly. These scholarships should be of £250 a year and should be awarded to graduates in pure science (3 years) in order to qualify as veterinary surgeons, and to veterinary surgeons (2 years) to take a degree or a further degree. These scholarships would be awarded by the Colonial Office and would carry the stipulation that at their expiration the scholar would enter the Colonial Veterinary Service for at least three years.

III. Post-Graduate Instruction in Tropical Veterinary Science.

The Committee considers that a newly-appointed officer should have had supplementary training in parasitology, bacteriology, pathology, bio-chemistry, nutrition, genetics, tropical hygiene and tropical agriculture, together with their practical application to specific problems of animal disease and epizoology. In addition, practical training is essential.

In order to meet these requirements, it is recommended that there should be established in Britain a School of Tropical Veterinary Science (modelled on the lines of the old London School of Tropical Medicine), which would be closely linked with a veterinary college and affiliated to a University. London is tentatively suggested as suitable.

The school would conduct a six months' course (October to March) as well as refresher courses (April to July). Facilities for research would be made available. There would be three main departments—Bacteriology, Parasitology, Physiology and Nutrition—each under a senior officer (£1,000), together with the necessary visiting and junior staffs.

The School would be under an Administrative Director (£1,250) concerned primarily with the organisation and development and whose teaching duties would be confined to lectures on veterinary hygiene and clinical demonstrations in not more than one major subject. On the assumption that suitable premises would be available to rent, the Committee considers that a capital outlay of only £5,000 would be necessary, with an annual charge of £12,000. This would be contributed partly by the Treasury and partly by the Colonies.

IV. Headquarters Organisation.

In order to advise the Secretary of State for the Colonies on veterinary matters, to ensure continuity of policy, to co-ordinate action between different administrations, to co-operate with other departments, to advise on personnel and regulations, and to keep in close touch with activities of Colonial Veterinary Departments, it is recommended that an Adviser on Animal Health should be appointed (£1,500).

To assist in the development of Colonial veterinary matters, an Advisory Committee on Animal Health is recommended, consisting of the lay Chairman of the Colonial Advisory Council of Agriculture and Animal Health, Adviser on Animal Health, the Chief Agricultural Adviser, a Representative of the permanent staff of the Colonial Office and a Bio-chemist, Botanist, Entomologist, Parasitologist, Protozoologist, Pathologist, Dietetician, Geneticist and an Epizootiologist. In consultation with the Colonial Agricultural Service Organisation Committee, a Joint Colonial Advisory Council is recommended, consisting of a lay Chairman, the Adviser on Animal Health (Deputy Chairman), the Chief Agricultural Adviser, a representative of the permanent staff of the Colonial Office, a Bio-Chemist, an Economic Botanist, an Entomologist, a Parasitologist, a Protozoologist, an Animal

Pathologist, a Specialist in Animal Nutrition, an Animal Geneticist, and an Epizootiologist.

The Adviser would be accommodated at the Colonial Office, the Committee (possibly) at the Bureau of Animal Health and the Joint Council at the Imperial Institute.

V. Research.

Veterinary research in the Colonies requires co-ordination and augmentation, while the research side of the service should be made more attractive financially than it is. In addition to the strengthening of local organisations a Central Research Station in East Africa is recommended. This would be an entirely new organisation consisting of Director, three Senior and four Junior Research Officers and the necessary staff. There would be three main departments; Pathology (including Bacteriology and Immunology), Physiology (including Nutrition, Bio-chemistry and Toxicology) and Parasitology, each under a Senior Officer (£1,000—£1,350), with a Junior Officer attached (£750—£1,000). The Director (£1,500—£2,000) would travel when necessary to keep the Central Station in touch with veterinary activities elsewhere. It is estimated that the recurrent expenditure would be about £25,000 per year.

VI. Colonial Veterinary Departments.

It is strongly recommended that there should be a separate Veterinary Department under its own professional head in all but the very smallest Colonies. Owing to lack of adequate rewards in the smaller Colonies a unified Colonial Veterinary Service is recommended and in addition it is suggested that the name "Veterinary Department" should be replaced by that of "Department of Animal Health," consisting of the Director and a Research and Field Staff. Moreover, "study leave" should be a normal condition of an officer's appointment.

VII. Colonial Veterinary Service.

As a means of attracting veterinarians of the highest ability, the Committee urges the creation of a United Colonial Veterinary Service with very attractive senior appointments. The advantages of such a service would be manifold. The free interchange of workers throughout the Colonies would tend to blend veterinary work throughout the Empire. At present Colonies with a single veterinarian often side-track a man for life. In a United Service young men would be trained in larger departments and veterinary officers would be posted for short tours of duty to the smaller Colonies. There, although only a junior officer, he would have to exert his abilities as an administrator and an organiser, and when subsequently re-transferred to a larger department, he would be more fitted for a senior position. Salaries should begin at a minimum of £600 per year with certain local allowances, and increase according to the following scale:—

Class VII.	...	£600—£30—£750.
Class VI.	...	£750—£50—£1,000.
Class V.	...	£1,000—£50—£1,200.
Class IV.	...	£1,200—£50—£1,350.
Class III.	...	£1,350—£50—£1,500.
Class II.	...	£1,500—£50—£2,000.
Class I.	...	£2,000—£50—£3,000.

(*Continued at foot of next column*).

Malignant Catarrh in Bovines.

Discussion by Members of the North of England Division.

Mr. W. Lyle Stewart, M.R.C.V.S., Armstrong College, Newcastle-on-Tyne, in opening a discussion on the above subject at a meeting of the North of England Division, held at Armstrong College, Newcastle-on-Tyne, on 8th December, 1928, said: An acute catarrhal inflammatory condition of the respiratory and intestinal mucous membranes has been common among young store cattle during the past autumn. The death rate among infected cattle has been high, and a good deal of attention has been focussed on the disease in the local press. Consequently, I feel that the disease is one which can with profit be discussed, and although I could not undertake to give a paper on the subject, I promised the Secretary that I would endeavour to open the discussion.

There does not appear to be a large literature on "malignant catarrh," and what there is, is woefully at variance. Thus, "malignant catarrh in cattle" is defined by Hutyra and Marek as "an acute non-contagious infectious disease, characterised especially by an inflammation of the mucous membrane of the head, with a tendency to formation of membranes and ulcerations, with affection of the eyes and severe nervous symptoms." Wooldridge, on the other hand, in his "Encyclopædia" states that "malignant catarrh is a contagious affection of cattle, characterised by acute catarrhal inflammation of the respiratory and alimentary tracts, and sometimes the skin."

A condition similar to the one to which I wish to draw your attention was described under the name of "transit fever," by Wm. Hepburn, F.R.C.V.S., in the *Veterinary Record* of March, 1925, and although I dislike adding to our already cumbersome nomenclature I must admit that "transit fever" seems to be an excellent descriptive name for the disease I have in mind. "Transit fever" is defined by Mr. Hepburn as "a specific type of fever or catarrhal affection, met with almost exclusively in cattle which have been transhipped from one part of the country to another." Taken at face value, therefore, the definitions given by these three authorities read like the definitions of three different diseases. On the contrary, these affections would appear to have much in common, but it is obvious that a little cleaning up remains to be done.

I am inclined to regard malignant catarrh as a seasonal disease and likely to occur at the change of the seasons. Many cases occurred in young Irish store cattle last October. At that time many farmers are stocking up for the winter, and newly-landed young Irish cattle are par-

(*Continued from previous column.*)

It is realised that the creation of such a scheme will take a matter of years, but Colonies are urged to approve of the principle in order to set the scheme in motion. Conditions of admission are defined. These include the absorption of existing officers at their present salary (if over £600) or at £600 (if under this sum.) New officers would enter at £600. Promotion need not be automatic, and may be accelerated if and when desirable.

XUM

ticularly liable to become affected. Particulars from the local knacker show that fifty-one young cattle were dealt with last October, and from my visits there and other evidence I think most of those animals were victims of malignant catarrh, as I have chosen to call it. Other cattle, dead from the disease, would no doubt be disposed of elsewhere. Two outbreaks came to my notice. In case No. 1 the farmer purchased thirty young freshly-landed Irish cattle. Within two days of their arrival several animals appeared dull and hung about, and a few days later twelve were affected. Despite treatment and careful nursing, five of the affected died, while seven others less severely affected recovered. Case No. 2 concerned some thirteen animals which were purchased at the same market as those of Case No. 1. Out of the thirteen animals, six became affected with malignant catarrh and four of them died.

I was able to see *post-mortems* in several of these cases. *Post-mortem* examination in Case No. 1 showed a generalised catarrhal condition throughout the whole of the respiratory and intestinal tracts (cf. definition by Wooldridge). The greater part of the mucous membrane from mouth to anus was covered with a greenish coloured catarrhal exudate and the vessels in the submucosa were inflamed. The contents of the intestines were scanty, of a liquid consistency and streaked with blood. The lungs showed advanced broncho-pneumonia affecting large areas of all lobes. There was a copious discharge and large areas of red hepatisation. The trachea was inflamed, but it was not noticed whether the catarrhal process had involved the sinuses of the head. The horn cores were loose and freely movable on the head, and extensive lesions were seen around the lips, incisor teeth and mucous membrane of the mouth. Kidneys and lymphatic glands appeared congested.

In Case No. 2 the lesions were confined in a greater degree to the thoracic cavity. The whole of the respiratory mucous membrane was acutely inflamed and there was a marked nasal discharge and congestion of the buccal membrane. Broncho-pneumonia appeared to have caused death. Hæmorrhages were present on the endocardium and surface of the kidneys. There was the usual looseness of the horn cores and ulceration of the mouth. The outstanding difference between the lesions observed by me and those described by Mr. Hepburn would seem to be the extent of the broncho-pneumonia. As observed by me, it extended throughout the lung, but in "transit fever" the constant lesion was patchy hepatisation, the lesions being small in extent and confined in most cases to the apical lobes.

Nothing seems to be definitely known regarding the etiology of malignant catarrh. Predisposing causes must enter largely into the count, because while it may be true that the disease cannot arise without a specific cause, it seems to me equally true that various predisposing causes must determine the incidence and onset of disease. Some predisposing causes mentioned by Mr. Hepburn when discussing "transit fever" are worth repeating in our discussion this afternoon.

1. Exposure to extremes of temperature. This occurs when cattle are subjected to high temperatures on board ships, etc., as well as variable temperature conditions, defective ventilation and overcrowding, to which many of these animals must necessarily be subjected in the course of transit and marketing, etc.

2. Debilitating causes and parasites. Any circumstance whatever which lowers the general tone or vitality of the system must be looked upon as a contributory cause. Chills, in my opinion, are a fruitful cause of the trouble, especially in poorly-conditioned animals. Thus, it is frequently met with in stirks of this class, and in them it proves very fatal. Those of you who are much better acquainted with the conditions under which these animals are transported will probably know better than I do how far these causes operate. No doubt a great change for the better has taken place, and it may not be clear why the disease is now prevalent. One must remember, of course, that travelling even under ideal conditions imposes a strain, while it is well-known that the volume of trade in Irish cattle has greatly increased.

Parasites in the lungs and intestines are important, but I do not know how large a part they play. No parasites were observed in the lungs or intestines of cattle I examined *post-mortem*.

There seems to be no unanimity with regard to the actual or exciting cause of malignant catarrh; indeed I do not know if the subject has received or is receiving, any attention from a bacteriological standpoint. Hutyra and Marek state that the symptoms and anatomical changes are due, in part at least, to bacteria of the colon type and their toxins. Hepburn mentions the *B. bovisepticus* as being present almost in pure culture in the lungs of cattle affected with "transit fever." The usual staphylococci and streptococci have of course been incriminated in the causation of malignant catarrh, but, so far as I am aware, the specific nature of the disease has never been proved. Hutyra and Marek state that the sporadic nature of the disease can most plausibly be explained in that the disease does not develop as the result of a specific infection, but as the result of the action of common ubiquitous organisms, superimposed upon a constitutionally weak animal. Undoubtedly, bacterial toxins do exert a powerful influence on the course of the disease, as is evidenced by the high fever and necrosis, but that they should emanate from common ubiquitous organisms strikes me as rather strange. Furthermore, surely we cannot regard all the cattle which become affected as being "constitutionally weak." I am sure my friend the Livestock Officer will refute this statement. Contrary to what is commonly stated regarding malignant catarrh, I am of the opinion that the disease is contagious. At the same time, I cannot think it is highly contagious, but I have evidence of its infectivity for in-contact home-bred stock, and in this respect it corresponds to "transit fever" and conforms to the definition by Wooldridge.

Symptoms.—Of the cases seen by me, several were severely affected, while in others the infection was much milder. Mild cases showed dullness, fluctuations in temperature, inappetence and a certain degree of congestion of the buccal mucous membrane, specially noted in the lower jaw. The abrasions of the mucous membrane were in certain cases rather suggestive of foot-and-mouth disease. Lachrymation was marked. These symptoms were greatly aggravated in severely affected cases. Several

animals showed laboured breathing, constipation and a high temperature; dull areas were detected over the lungs. All the cattle affected to this degree died after an illness lasting from seven to ten days.

Treatment.—Upon the advice of the veterinary surgeon attending those cases the sick animals were comfortably housed in a well-ventilated shed, kept free from draughts. All solid food was withheld, but oatmeal gruel was fed three times a day. Probably some drugs were also used, but, if so, I do not know what they were. This treatment was successful in curing all the milder cases. The sheet anchor of treatment would seem to be rest for the intestinal tract until the catarrhal condition subsides, with an abundance of fresh air, good nursing and small amounts of sloppy food. All purgatives must be avoided and counter irritation to the chest was deemed inadvisable. Even hay was withheld, since it seemed to aggravate the condition of the mouth. The thermometer was in constant use and whenever an animal showed a rise in temperature, it was immediately brought into the shed and placed under treatment.

I am afraid that these notes are lamentably scrappy, and I must confess that lack of time has forced me to omit a few thoughts upon prevention. I can only express the hope that what has been said will stimulate a useful discussion.

Mr. T. M. MITCHELL said he had seen few cases of malignant catarrh, but the description given by Mr. Stewart suggested to his mind a type of disease conforming to infection by a filterable virus, producing a train of symptoms comparable to those observed in canine distemper.

Thousands of Irish cattle were brought over every year, yet one only encountered occasional outbreaks. If overcrowding was a serious predisposing cause, he felt that outbreaks would be much more common.

Mr. C. ELPHICK stated that he had recently observed a number of cases, and had been impressed by the high mortality of the disease. He asked for information regarding the period of incubation, and whether this period was influenced by the physical condition of the animal. What was the incidence of the disease at the ports? It was known that animals arrived in a weakened condition and were rested for a time on arrival. Possibly the veterinary officers of the Ministry could shed light on that point. Mr. Elphick had seen cattle on the quay in Dublin, which, having already travelled long distances, were footsore and weary, yet he had not seen the disease amongst them.

It was believed that acidosis had some influence on other conditions, *e.g.*, sterility and contagious abortion, and he asked whether acidosis might have some influence on malignant catarrh.

Mr. H. S. ELPHICK mentioned the possibility of animals contracting the disease at the marts. He asked for the number of animals seen alive, and the number of *post-mortem* examinations made by Mr. Stewart.

In his experience of *post-mortems*, pneumonia was a constant feature, while congestion of the kidneys was so common a *post-mortem* lesion in cattle that he doubted its value as an aid to diagnosis. He thought that the lesions of stomach and intestines might also be *post-mortem* conditions, and the whole picture suggest a possibly incorrect theory of toxæmia.

Mr. J. O. POWLEY, who contributed to the discussion on the invitation of the President, said that in his view the essential feature of the disease was a catarrhal condition of the buccal mucous membrane, associated with an acute toxæmia. He mentioned the cases of four animals which had come under his observation recently, which exhibited these symptoms, and died after two to three days. The feet might be affected as well as the horns, sometimes in an acute state, when the profuse salivation and lameness were suggestive of foot-and-mouth disease. The foot lesion was, however, a dermatitis round the coronet, and the separation was not the same as in foot-and-mouth disease. A few days elapsed before separation occurred in malignant catarrh. The differential diagnosis was important. Malignant catarrh lesions required some days to develop, and the course of the illness might be progressive up to fourteen or fifteen days.

In foot-and-mouth disease the lesions were thrown up quickly and after fifteen days the animal had recovered.

Mr. Powley said he did not offer an opinion as to the contagious nature of the disease. In Devon and Cornwall it seemed to be indigenous. He had known of its existence in store stock for over twenty years, and had observed it in stock at pasture, including stock bred on the farm. Brewers' yeast was esteemed as a remedy. He believed the incidence at the ports to be practically *nil*.

He had been much interested in the description of the symptoms, for those observed by him had been suggestive of disorder of the digestive tract. There had been an absence of cough, and he had been unable to detect broncho-pneumonia. The symptoms described by Mr. Stewart were certainly suggestive of disorder of the thoracic cavity.

Mr. A. SCOTT said that he had seen lung symptoms in most of his cases; temperatures were high, and there were coughing and salivation. He was of opinion that both alimentary and respiratory tracts were involved, and believed that purgatives and stimulants to the thoracic wall were alike contra-indicated. Feeding on hay often terminated fatally, but animals fed on a liquid diet might recover. Frequently they shewed no desire for food.

Early observation of the disease, the frequent use of the thermometer, coupled with good nursing and a light liquid diet appeared to offer most prospect of a successful termination.

Mr. JACKSON YOUNG joined issue with Mr. Stewart for his suggestion that malignant catarrh and so-called transit fever were the same condition. He considered "transit fever" to be a most unsuitable term for a condition quite different from that under discussion. He regarded malignant catarrh as a broncho-pneumonia, but was doubtful as to its contagious nature, though he was reluctant definitely to state so. Research was being conducted with regard to the etiology of malignant catarrh, and one might look forward with hope to the results.

Referring to the predisposing factors, Mr. Young expressed the opinion that overcrowding in ships and trucks did not occur, or, if it did do so, then it was due to negligence. He did not support the theory that defective ventilation in ships was a predisposing factor, and pointed out that the regulations of the Ministry of Agriculture and Fisheries prescribed that the air in ships should be changed twenty times per hour.

Hepburn had stated that the *Bacillus bovisepticus* was present in pure culture. Was this an obligatory or a facultative organism? In his view, this organism was not responsible, and the use of vaccines made from it had not been attended by success.

Parasites might be a predisposing factor. He had noted their presence on several occasions.

Many cases of malignant catarrh were seen in home-bred stock. Sometimes such animals shewed what, at first sight, appeared to be typical lesions of foot-and-mouth disease. They did not, however, smack the lips in the typical manner. Foot lesions were often puzzling.

It was worthy of note that so long ago as 1837 the disease was described as typhoid fever of the ox, and the treatment advised was the administration of yeast. Possibly a modern method might be the exhibition of nuclein. Mr. Mitchell had made a valuable contribution when he suggested that malignant catarrh might be due to a filterable virus. Research might ultimately prove this to be the case. Mr. Young had seen many cases in Scotland and stated that cases seen in the North of England differed from those seen in Scotland in that buccal and oral lesions were more frequent, while foul breath and short cough were more frequent features.

Some years ago the Aberdeen mart was suspected as a possible source of infection and on the strength of this suspicion it was thoroughly cleansed and disinfected, yet cases of the disease continued to occur in animals passing through the mart. He believed that the average mart was well cleansed, and the risk of infection from this source was very slight. He had spent seven years at the ports, during which time he had not seen a single case. He had no opinion to offer concerning the period of incubation. On one occasion the National Farmers' Union in Scotland tried an experiment with the object of stamping out the disease. They arranged for waggons to be sheeted from the port to the point of distribution, but this attempt failed, and cases of the disease continued to occur.

The constant use of the thermometer, a plentiful supply of fresh air, careful nursing, together with good food and clean water were very important factors in dealing with the disease.

The opinion had been expressed that the water had no effect on the disease; none the less, a clear water supply was a desirable adjunct in dealing with the disease.

Mr. Young enquired, if Mr. Stewart's suggestion that the disease was contagious was correct, how would he propose to control it by legislative measures?

The PRESIDENT (Major H. Peele) in winding up the discussion, congratulated Mr. Stewart on presenting his notes for discussion at short notice, and remarked that his efforts had produced a most enjoyable debate.

He had seen a few cases, and he had some doubt as to the contagious nature of the condition. He thought the disease began in the intestinal tract and that chest symptoms were secondary. It was noteworthy that animals in good condition, as well as those in low condition, were liable to attack. The President agreed with Mr. Powley that the disease did occur in home-bred stock, which had never been in contact with imported stores.

Referring to treatment, the President said that in mild cases he had found one or more injections of nuclein of value. Once the symptoms were established, however, treatment was of no avail, and the disease proved rapidly fatal.

Mr. STEWART, in his reply, thanked the members for the manner in which they had received his opening remarks. He had been much impressed by the opinions expressed regarding the contagious nature of the disease, though he would still hesitate to say that malignant catarrh was non-contagious. Replying to Mr. Mitchell, he thought there was a possibility that malignant catarrh might be due to a filterable virus; that point, however, remained to be proved. He thought there was some similarity to rinderpest, in that in malignant catarrh there appeared to be a toxæmia, followed by a generalised disease. As our knowledge of viruses increased no doubt we would be able to prove the cause.

In response to Mr. C. Elphick, Mr. Stewart said that he had no definite knowledge regarding the period of incubation. He thought cattle were infected at the time of arrival, and he noted Mr. Powley's remark that Irish cattle often shewed evidence of the disease from ten days to three weeks after arrival. The *post-mortem* appearances gave him the impression of a chronic disease becoming acute. He was somewhat sceptical with regard to acidosis. Mr. Stewart agreed with Mr. H. S. Elphick that congestion of the kidneys and liver were common *post-mortem* findings, but when the kidney was definitely enlarged and shewed a spotted appearance on section he thought it could justifiably be regarded as a disease process.

Mr. Jackson Young had mentioned the *Bacillus bovisepticus*. This was a facultative parasite, and he did not regard it as the causal agent of the disease. Facultative, however, was hardly the correct word, since all organisms capable of growing *in vitro* were facultative. With regard to its specificity, however, the bacillus was non-specific for malignant catarrh. There was another feature in his cases differing from transit fever described by Hepburn, namely, the lung lesions. According to Hepburn, the lesions were small, usually affecting only one lobe, whereas in his cases the lung was extensively affected.

Malignant catarrh presented many debatable points, and he welcomed the news that research was being prosecuted in the matter. There did not appear to be any evidence which could incriminate the water supply. Referring to overcrowding, Mr. Stewart said his remarks were quotations and he would like to believe Mr. Young's remarks to be correct. None the less, he maintained that some degree of overcrowding was practically unavoidable during transit, though it might only exist for a short time.

The question of legislation was intriguing. There were other diseases, as, for example, contagious abortion, which they knew definitely to be contagious, but which they could not control by laws because the time was not yet opportune. This argument applied with greater force to malignant catarrh, for until they could be certain that the disease was contagious it was obviously inopportune to consider legislative measures. Even if proved to be contagious, the contagion might be of a low degree, insufficient to justify the cost of legislation. Further knowledge was essential.

Was Shakespeare a Veterinary Surgeon?

By KEVIN F. QUIN, M.R.C.V.S.

In his very interesting paper, "A Brief History of Veterinary Science," read before the Western Counties' Division, Mr. Masson failed to mention the many allusions to the veterinary profession which are to be found in the works of Shakespeare.

In *The Tempest* we find—

> "Deeper than did ever plummet sound
> I'll drown my little book."

This was obviously spoken by a student who had failed to satisfy the examiners—who, by the way, are advised in *Much Ado About Nothing*—

> "If they make you not the better answer, you may say they are not the men you took them for."

But still, as we see in *Love's Labour Lost*—

> "Small have continual plodders ever won
> Save base authority from others' books."

Shakespeare must have just passed in Anatomy when he wrote this play, for he says—

> "These are begot in the ventricle of memory, nourished in the womb of pia mater and delivered upon the mellowing of occasion."

In *Two Gentlemen of Verona* we find a reference to the "owner's diagnosis"—

> "I have no other but a woman's reason;
> I think him so because I think him so."

Of fair owners he says in *The Merchant of Venice*—

> "Fair ladies, you drop manna in the way of starved people."

But I am afraid he calls their pets—

"The wealthy curled darlings of our nation." (*Othello.*)

He evidently had difficulty in collecting his debts—

> "This is the third time; I hope good luck lies in odd numbers—there is a divinity in odd numbers either in nativity, chance or death.
> (*Merry Wives of Windsor.*)

There are many references to the trials of a practitioner's life—

> "The bell invites me.
> Hear it not, Duncan; for it is a knell
> That summons thee to heaven or to hell."
> (*Macbeth.*)

And,

> "I am tied to the stake and I must stand the course." (*King Lear.*)

Again, in *Hamlet*, he refers to the general practitioner—

> "Whose sore task
> Does not divide the Sunday from the week."

In *Much Ado About Nothing* we find a reference to consultants' fees:—

> "Flat burglary as ever was committed."

Shakespeare's therapeutic knowledge was sound—

> "Diseases desperate grown
> By desperate appliance are relieved
> Or not at all." (*Hamlet.*)

In the same play he writes—

"And in the morn and liquid dew of youth
Contagious blastments are most imminent";

and here, I think, it can be assumed that the bard was bemoaning the ravages of distemper.

He had evidently seen cattle practice and attempted the removal of retained membranes, for in *Macbeth* he writes—

"All the perfumes of Arabia will not sweeten this little hand";

and, in *The Merry Wives of Windsor*—

"The rankest compound of villainous smells that ever offended nostril."

There is an allusion to eczema in *King Henry IV*—

"Diseased nature oftentimes breaks forth
In strange eruptions";

and to the difficulty of curing it in *Macbeth*—

"Out, damned spot, Out, I say."

Some particularly gory operation must have inspired the speech in the same play—

"I am in blood
Stepped in so far that, should I wade no more,
Returning were as tedious as go o'er."

An operation which seems to have dropped out of custom is referred to in *Othello*—

"I took by the throat the circumcised dog,
And smote him, thus."

Shakespeare must have taken a course in Helminthology for, in *King Henry IV*, he remarks—

"The smallest worm will turn, being trodden on";

and again, in *King Richard II*—

"Let's talk of graves, or worms, and epitaphs."

Finally he refers, in *Hamlet*, to that "unfortunate sequel" which we all know too well—

"Lay her i' the earth:
And from her fair and unpolluted flesh
May violets spring."

From The Veterinarian, January, 1828.

Hydrophobia.

The following narrative of Occurrences was sent to us by Mr. KING, Veterinary Surgeon, Stanmore.

A sheep-dog belonging to a neighbour was observed, on the 7th of February, 1822, to deviate from his ordinary habits and accustomed control; he would pursue the sheep as usual when directed, but not without evincing signs to bite them, which was contrary to his former disposition. His voice also underwent a peculiar and very remarkable alteration. On learning all this, his master ordered the dog to be put into confinement; which however was not done until the following day; so that the animal was suffered to run at large among the various cattle for the whole of the first and part of the second day of his discovering such dubious and alarming irregularities. The same day the dog was confined he bit the shepherd severely in the fleshy part of the thumb, as the man was attempting to administer some medicine to him: the wound bled very little; it was bathed in spirits of turpentine; it rapidly healed, and no more concern was felt about it.

9th. The dog died.

28th. A sheep was bitten and died hydrophobic.

March 2nd. Another sheep and some hogs were successively seized by him, and all died rabid. The shepherd now became alarmed for himself. I met him by accident, and finding that he had great confidence in the preventive effects of some medicine compounded by a poor man, named Webb, residing near Watford, I advised him to take the medicine, and afterwards go to the seaside; which advice he took; the wound being, prior to his leaving, perfectly skinned over.

3rd. One of the horses in the same place was observed to be unwell. The next morning one of the men employed in the stables thinking that a urine ball might prove serviceable to the animal, endeavoured to exhibit one; in which act he got his hand and arm much abraded, the skin being in many places penetrated quite through. In the course of the afternoon the horse became perfectly unmanageable: I was sent for; but he died in a few hours from the time, decidedly rabid. The man he had bitten took Webb's medicine, and expressed himself quite satisfied with its efficacy: but his master insisted on his also going to the sea coast. Both the men escaped, and have continued to this day in perfect health.

Webb's Prophylactic is noticed by Mr. Blaine in his *Domestic Treatise on the Diseases of Horses and Dogs*; which, under the head of "Madness," gives the most correct and clear account of the disorder that I ever read. In regard to the medicine, I may observe, although I have known it to fail frequently among animals, of the many hundred of persons that must have taken it, no individual to my knowledge has suffered from Hydrophobia.

Stanmore,
December 11th, 1827.

Army Veterinary Service.

MOVEMENTS OF OFFICERS.

Major G. W. Godwin proceeded from Aldershot to the Southern Command on the 15th January, and is now doing duty at Tidworth.

Major M. J. Killelea proceeded from Aldershot to the Southern Command on the 21st January, and is now doing duty at Tidworth.

Major H. D. Lewis has been transferred from Portsmouth to Tidworth for duty.

Major W. H. Simpson is on the sick list as a result of a fall from a horse; he sustained concussion, from which he is making a satisfactory recovery.

Major J. S. Nimmo, D.S.O., whilst proceeding from Larkhill to York by motor car, met with an accident; his car skidded and turned turtle; he sustained scalp wounds and bruises. It is understood that he is progressing favourably.

Major A. Hodgins, D.S.O., has been posted for temporary duty from Aldershot to York, with effect from the 22nd January.

Major R. T. Smith met with an accident while out hunting and sustained a fractured collar bone and injuries to the chest.

Major W. M. Rouse has been posted from Woolwich to Melton Mowbray for temporary duty, with effect from the 28th January.

. . . . . .

PROMOTION EXAMINATIONS.

An Army Order states that the following campaigns have been selected for promotion examinations in 1930 for officers of the R.A.M.C. and R.A.V.C.:—

For Majors, Royal Army Veterinary Corps, in Subhead (*k*) (ix.) for promotion, March, 1930:—"The Veterinary Services in Egypt and Palestine, 1914 to 1916 inclusive, as described in the Official Veterinary History of the Great War," and "The Veterinary Services in France and Belgium, as described in the Official Veterinary History of the Great War."

. . . . . .

LONDON GAZETTE—WAR OFFICE—REGULAR ARMY.

Jan. 15th—Capt. J. Leigh to be Maj. (Oct. 15th, 1928), with precedence next below J. Judge.

Jan. 29th—The follg. Lts. to be Capts. (Jan. 4):—L. H. B. Poer, M.C., J.P. Hegarty, M.C.

TERRITORIAL ARMY.

Jan. 18th—Maj. H. C. Jagger, O.B.E.) Hon. Vet. Lt. in Army) having attained the age limit retires and is granted the rank of Lt.-Col. with permission to wear the prescribed uniform (Jan. 19th).

XUM

The Veterinary Record.

9th February, 1929.

THE COLONIAL VETERINARY SERVICES.

Eighteen months ago the Colonial Secretary called a committee of veterinary surgeons, medical scientists and lay administrators, under the chairmanship of Lord Lovat, to investigate the needs of the Colonial Veterinary Services. The report of that committee has now been issued, and is noted in detail elsewhere. It is a unanimous one and displays a frankness and a breadth of vision which, coming as it does from a committee the majority of the members of which consisted of non-veterinarians, has an enhanced value and an obviously altruistic outlook which disarms any criticism of self-interest. The recommendations ma..e form one of the most constructive contributions to the improvement of the status of the Veterinary Services ever made, and Veterinary Science owes a deep debt of gratitude to its members.

One of the most important findings of the committee is that Veterinary Science is concerned with animals in health as well as in disease, a point of view emphasised by the proposal to alter the titles of the Colonial Veterinary Departments to those of Departments of Animal Health.

It is frankly recognised that the present Colonial Services are under-staffed and under-developed. To attract new and efficient blood and to render promotion available for all, the new concept is adopted of a single unified Colonial Veterinary Service with a scale of salaries ranging from £600 to £3,000 yearly.

The advantages of such a scheme are many. In the past young men found their only chance for real advancement in colonies with large veterinary staffs. In this new scheme the young recruit will gain experience in such a colony and while still relatively junior may be posted to a "single veterinarian" colony. There he will experience methods of administration and organisation which will be invaluable to him on reposting to more responsible positions. The small colonies will benefit from his field training in the large; the large, from his administrative training in the small.

The committee realise that the creation of such a Service will necessarily take some time, but they emphasise the necessity of Colonial Governments adopting the principle of a scheme which cannot fail to assist enormously their own economic development and social progress.

In order to feed this Service with both men and material several important schemes are proposed. A temporary scholarship system is suggested to attract University graduates into the profession and to assist veterinary surgeons to become graduates. An Adviser in Animal Health at the Colonial Office and strong Advisory Committees to assist him are recommended. A Central Research Station is proposed, situated in Africa but immune from local problems, and, last but by no means least, the establishment of a School of Tropical Veterinary Science in Britain is considered desirable.

These proposals, important as they are in themselves, are merely ameliorative if the radical principle of unification is not adopted.

The Colonial Veterinary Service in the greatest Colonial Empire the world has ever known is frankly, at present, a disgrace. Even in its impoverished and under-staffed state it has undoubtedly saved millions of pounds in preventing and controlling animal diseases. Its powers for good in the increased and strengthened position visualised by the committee are illimitable. Moreover, as the Colonial Veterinary Service cannot be considered as other than a part of the whole profession, the impetus given to Veterinary Science in general must be enormous and have far-reaching effects. It will attract new blood to our midst, it will mould a new and better type of public opinion and it will enhance the prestige of every one of us.

The report is a series of recommendations, some of which may of necessity be modified in the light of criticism and experience. These modifications will, we hope, be of the slightest and it behoves every veterinary surgeon, at home and abroad, to do all in his power to further the adoption of the principles underlying the various recommendations. Active assistance is necessary—passive acquiescence is not enough—and every path which will lead to this end must be thoroughly explored. British Veterinary Science has an opportunity which it never had before to establish itself in its true position among the professions. Let us for once give effect to our motto *Vis Unita Fortior* and work whole-heartedly for the universal adoption of these recommendations.

Royal College of Veterinary Surgeons.

At a special meeting of Council R.C.V.S., held at the College on 22nd January, 1929, the alterations to Bye-Laws passed at the previous special meeting were confirmed, and the Seal of the College was ordered to be attached to the altered Bye-laws.

The Royal Sanitary Institute.

The next courses of training for Army Officers and Professional Men in meat and food inspection and canteen supplies, conducted by the Royal Sanitary Institute, commence on Monday, February 18th, and on Friday, February 22nd, for Meat and Food Inspectors. Syllabuses of the lectures and of the examinations, containing full particulars, are obtainable from the Secretary of the Institute, 90 Buckingham Palace Road, London, S.W.1.

CLINICAL AND CASE REPORTS.

Extramedullary Neurofibroma of the Cauda Equina of the Horse, producing Rectal Paralysis.

By R. HUDSON, F.R.C.V.S., Retford.

The subject was a hunter gelding, about ten years old, in good condition.

He had been summered in a box and regularly ridden. There was no evidence of any injury.

On August 8th, my attention was called to him because he was rubbing his tail and the stud-groom could not check it. He must have been rubbing badly for he had produced a sore about the size of a half-crown piece on the near hind quarter.

I prescribed a dressing of sulphur and oil and the groom told me that the irritation ceased almost at the first dressing, and the growth of the hair returned.

On September 23rd, when out exercising, the stud-groom noticed that he was not swinging his tail as usual, and later, the boy who rode him reported that he thought "he wanted to stale and could not."

When they returned to the stable he was given a dose of nitre in a mash. Later that day fæces were noticed protruding at the anus and were removed.

The following day (September 24th) I was called in. I found the patient in good condition with normal pulse and appetite. The tail was hanging limp and completely devoid of movement and sensation. The anus was open, showing fæces in the rectum and a small quantity had fallen out during the might.

Movement of the hind limbs was normal.

The rectum was emptied and the interior of the pelvis examined, but nothing could be found to account for the paralysis.

A serious prognosis was given. Instructions were given to empty the rectum three times daily and to feed on a laxative diet.

A mustard application was given over the loins and croup. Pot. iodide and nux. vomica. (half ounce each) were given daily.

This treatment (without mustard) was continued for a week without improvement.

Being a valuable horse and the owner anxious that everything possible should be done, he was sent in for the application of ultra-violet rays.

During the applications, and after emptying the rectum, urine usually dribbled away and at no time was he found to urinate properly.

Sediment accumulated in the bladder, the urine becoming very turbid, so along with pot. iodide and nux. vomica eight ounces of sodium chloride in two gallons of water were given with the stomach tube. The urine cleared after the first injection, but the treatment was carried on with improvement in the urinary secretion and consistency of the fæces.

Having applied the rays for about a fortnight and the skin over the lumbar region having become sore, they were discontinued.

The muscles of the tail were wasting and there was a marked dip at the beginning of the coccygeal muscles.

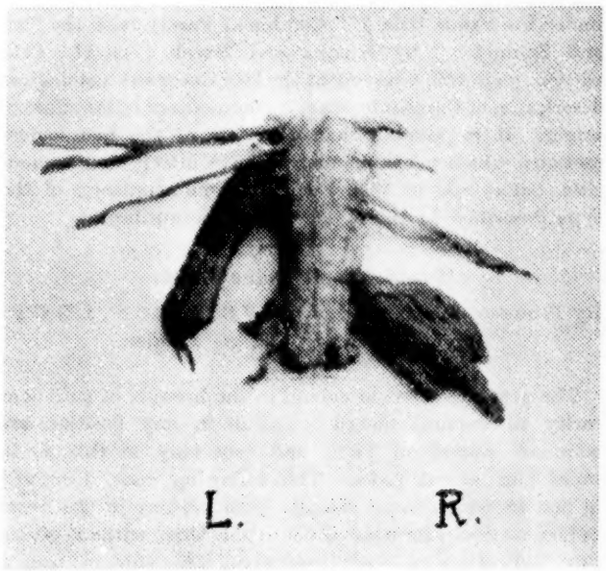
The spinal processes at the loins were becoming prominent and the patient was losing flesh generally, though feeding well.

October 23rd. The owner agreed that it would be useless to carry on with treatment any longer and the horse was destroyed.

Post-mortem Examination.—The examination of the pelvis revealed nothing abnormal beyond some redness of the rectal mucous membrane and bladder.

The lumbar vertebræ were removed and on chipping away the under surface of the spinal canal, two small tumours were found lying along the end of the spinal cord in the cavity of the 6th lumbar vertebræ.

The specimen was forwarded to Professor Hare for examination and I append his report and photograph which he has kindly prepared for insertion in the *Veterinary Record*:—



Photograph of superior aspect of the Cauda Equina showing the neurofibromata involving the 1st and 2nd sacral nerve roots on the left side (L) and the 3rd, 4th and 5th sacral nerve roots on the right side (R).

The specimen (see photograph) consisted of the distal end of the spinal cord which had been severed between the roots of the 4th and 5th lumbar nerves. The coccygeal roots with the filum terminale, and the dura mater, had also been cut away in the removal of the specimen from the spinal canal.

The superior roots of the 1st and 2nd left sacral nerves presented two cylindrical-shaped swellings, of a consistency resembling normal nerve, 3.0 and 2.5 cms. respectively in length, and 0.3 cms. each in breadth. The pointed, proximal end of each swelling arose immediately at the point of emergence of the nerve root from the cord, while the tapering distal end merged insensibly into the nerve. The two swellings were intimately applied to one another. The roots of the 3rd, 4th and 5th right sacral nerves were also swollen and fused into a somewhat lanceolate mass of a consistency and formation similar to the swellings on the left side. The mass was 3.2 cms. in its greatest length.

No macroscopic abnormality was detected in any other structures of the specimen; also there was no evidence of compression of the cord by the swollen nerve roots, which at the *post-mortem* "were found lying on the level of the body and intervertebral disc of the 6th lumbar." (R.H.)

Histologically the tumours (which were cut transversely) are composed of neoplastic tissue surrounding and replacing the original medullated nerve fibres, which are undergoing pressure atrophy. The neoplastic tissue is composed of atypical nerve cells lying within a delicate stroma, which supports thin-walled blood vessels. These atypical cells of oval or polygonal shape possess large deeply staining spherical or oval shaped nuclei; while in occasional fields syncytial masses of a faintly granular cytoplasm containing from 3 to 15 oval nuclei are to be found.

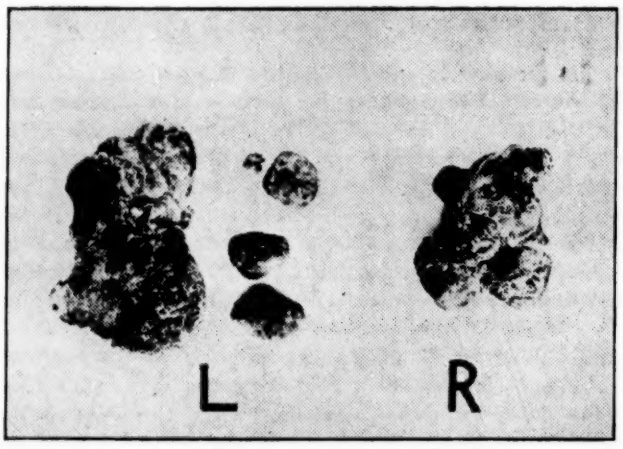
No microscopic abnormality was detected in a complete transverse section of the cord immediately in front of the level of the 5th lumbar nerve root.

Discussion. Clincally this type of case is fully described under the vague title of "Combined Paralysis of the Tail and Sphincter," by Hutyra and Marek (Vol. II., 1913 edition, page 750) who repeat the long-accepted histological description of the root lesion as a granuloma of inflammatory origin. It is possible that a review of the histological sections, which previous authors have interpreted as neuritis, might lead to their recognition as neoplasms of the type described in this case, namely neurofibroma.

Renal Calculi in the Horse.

By Professor J. McCunn, M.R.C.V.S., M.R.C.S., L.R.C.P., Royal Veterinary College, London.

The presence of renal calculi in the horse is of sufficient rarity to warrant record. Calculi in any position are common causes of pain, and especially is this so in renal and uretal cases. The following case, however, is one in which large calculis were present in the renal pelvis, no doubt for some considerable time, without giving any indication of their presence. The subject was a seven-year-old cart horse which was slaughtered as the result of an accident. On *post-mortem* the calculi illustrated were found in the renal pelvis: there were none in the remainder of the urinary tract. The calculi were easily removed, and there was no sign of any local inflammatory reaction. I had known this horse for all his working life and on no occasion had he given any indication of either renal or abdominal pain. I am indebted to Mr. Mackay, of the Royal Veterinary College, for the excellent photographs, which are one-third natural size.



Large Vesical Calculus in a Horse.

By Malcolm MacColl, M.R.C.V.S., Helston.

Recently, while making a *post-mortem* on an aged cart gelding which had died from another cause, an enormous bladder calculus was "brought to light."

The calculus, which is quite solid but somewhat brittle, is creamy-coloured and roughly heart-shaped, with somewhat flattened sides and a smooth surface.

Measurement and weight.—From base to apex it measures 15 inches, and 24 inches in circumference, and when weighed scaled 24lb.

Subsequent enquiry elicited the information that the horse, except for some incontinence of urine, had been otherwise fit and had performed his work on the farm in a satisfactory manner.

The bladder itself did not show any marked pathological changes, although presumably it must have taken a very considerable time for such an enormous calculus to develop.

Vesical calculi, especially those so large, are somewhat rare in horses, and it would be interesting to hear if readers of the *Record* have met with similar cases.

ABSTRACT.

[Vasectomy as a Method of Sterilising Ram Lambs. A Comparison with Castration. By J. Quinlan, M.R.C.V.S., Dr. Med. Vet. Union of South Africa. 13th and 14th *Reports Div. Vet. Educ. and Research* Part I. Oct. 1928, pp. 583—591.]

It is well known that castration retards full skeletal development. In the case of bovines this results in a loss of beef and hide, and in the sheep of mutton and wool.

From the practical standpoint, the following points must be met satisfactorily by any method of sterilisation of male animals:—

1. The possibility of reproduction must be removed.
2. Sexual desire must be removed and the coarseness of the meat with its characteristic odour must be obviated.

The objects to be sought are maximum growth and vitality.

Quinlan claims that with a little practice twenty to twenty-five lambs can be operated upon in an hour.

The most convenient time for the operation is when the testicles are fairly well developed.

The scrotum is clipped clean—the preparation of the lambs is preferably done on the day before the operation.

The lamb is placed on a table in the dorsal position and held by two assistants. The hind legs are drawn well forward.

The scrotum is swabbed over with a pad of cotton wool moistened with ether, and with the left hand one testicle is then drawn well down to the bottom of the sac. The

" cord-like " vas deferens is then felt for and separated from the rest of the cord by the thumb and fore-finger of the left hand. The remaining fingers are pressed against the anterior surface of the neck of the scrotum so that the vas deferens can readily be felt under the skin.

An incision about half-an-inch in length is made through the skin and tunica vaginalis immediately over the vas and in the direction of its length. The vas frequently protrudes through the wound. It is held by artery forceps and a piece half-an-inch long is snipped from it with scissors. A single cat-gut suture is put in the wound.

The other testicle is then treated in the same way, and the wounds closed with an iodoform collodion seal.

For the first twelve months after operation the testicle grows normally in size and shape, and on section it cannot be differentiated from the testicle of a ram, but there is a gradual enlargement of the tail of the epididymis as the result of the accumulation of débris. This enlargement may be as big as a walnut.

During the next twelve to fifteen months the change in the testicles is more rapid. The swelling of the epididymis is more marked, and it forms a fluctuating swelling above the testicle. In the meantime the testicle has become shrunken and rounded.

In September, 1923, a few sheep were operated upon as an experiment to see whether operations on a large scale would be justified, and in 1924 a fairly extensive experiment was carried out.

The objects of this experiment were as follows:—

To compare the effects of vasectomy and castration as regards the development of secondary male characteristics, the skeletal development, mutton production and the growth and character of wool.

A flock of crossed Merino-Afrikander lambs was used. The animals showing a predominance of merino were used for the wool tests, and those showing Afrikander predominance for the mutton tests.

All the sheep, numbering in all 227 (81 vasectomised, 25 control rams, 51 control wethers, and 70 control ewes) were kept under the same conditions.

Each sheep was weighed once a month. They were shorn after 12 months and two years. Records were kept of the weight, length of staple, and character of the wool.

It was found that the vasectomised lambs developed the secondary sexual characters of the ram, and that they were sterile. They maintained a greater weight than wethers or ewes when fully mature, and in this respect were equal to rams.

The mutton had the characteristic taste of ram mutton. Quinlan suggests that this could be overcome by castration six months before slaughter, and an experiment to ascertain the effects of castration on vasectomised sheep at the end of the second year is in progress.

The sheep operated upon produced wool equal in amount and quality to that produced by rams.

The operation appeared to have little effect upon vitality.

It was found by the study of sections that spermatogenesis takes place up to two and a half years after vasectomy, and that there was little or no hypertrophy of the interstitial tissue. A. L. S.

DIVISIONAL REPORTS.

North of England Division, N.V.M.A.

Meeting at Newcastle-on-Tyne.

A meeting of the North of England Division was held at Armstrong College, Newcastle-on-Tyne, on 8th December, 1928. The chair was occupied by the President, Major H. Peele, and the attendance book was signed by the following:—Messrs. C. Elphick, T. M. Mitchell, F. Christopher, H. Hicks, J. Davidson, C. G. Hill, J. H. Taylor, W. Lyle Stewart, P. Snaith, A. Scott, H. S. Elphick, C. Nicholson, R. Barker, W. H. Blackburn and J. R. Rider, Hon. Secretary.

Visitors.—Messrs. J. O. Powley, W. Jackson Young and J. W. Wilson.

The minutes of the previous meeting were read and approved.

Correspondence.—(1) Apologies for absence from Messrs. Croudace, Pratt, Wilkinson, J. W. Rider, Doughty, Jarvie, Finney and Professor Hobday. (2) From the National Horse Association, inviting the division to become affiliated to that Society. It was proposed by Mr. C. Elphick that affiliation should be effected. The proposal was seconded by Mr. Davidson and carried. (3) From the N.V.M.A., with reference to the provision of veterinary treatment for the sick animals of poor persons. This was considered in conjunction with the report of the sub-committee appointed to arrange the details of a scheme with the local branch of the R.S.P.C.A.

The Council had previously considered the letter and the report, and in view of the fact that a scheme similar to that suggested in the letter had already been launched, this Council had formed the opinion that a special meeting of practitioners to consider the matter was no longer necessary. The advice of the N.V.M.A. was sought on this point, and was found to support the view of the council.

A report of the sub-committee was then read by the Secretary,

The report was received and adopted on the proposal of Mr. Hill, seconded by Mr. Mitchell, and the sub-committee thanked for their services.

The President said that the scheme recommended by the sub-committee was now an accomplished fact, undergoing trial, and definitely under the control of the North of England Division. From that point of view it was particularly desirable that members should support it in every way possible.

Approval was also given to the nomination of Mr. H. S. Elphick to serve on the General Committee of the R.S.P.C.A. branch.

Election of Officers.

The President stated that this matter had received the very careful consideration of the Council and hoped that the recommendations would be approved. It was suggested that the Council should be increased from seven to nine members, by the automatic inclusion of the two Vice-Presidents. This would remove an anomaly which

had existed unnoticed since the Council was first formed. The retiring members of Council would be eligible for re-election. Messrs. Davidson and C. Elphick desired to withdraw their names, on the ground that both gentlemen agreed that it was highly desirable that other members should have the opportunity of serving on the Council. Mr. Davidson further said he believed that two members of Council should retire each year, and be ineligible for re-election for twelve months.

It was agreed that the Vice-Presidents should become *ex-officio* members of the Council, and to elect members by ballot.

President.—On the recommendation of the Council, it was formally moved by Mr. DAVIDSON, seconded by Mr. HILL, that Mr. T. M. Mitchell be elected President for the ensuing year. Mr. Mitchell's name was received with applause and the proposal carried unanimously.

Mr. MITCHELL made a suitable response, remarking that he would take up his duties at the annual meeting, with some degree of trepidation, but given the support of the members they could rest assured that he would do his best to maintain the traditions of the office.

Vice-Presidents.—In accordance with custom, the retiring President, Major H. Peele, was elected senior Vice-President, while Mr. J. H. Taylor, Darlington, was elected junior Vice-President.

The *Hon. Secretary and Treasurer*, Mr. J. R. Rider, and the *Hon. Auditors*, Messrs. H. S. Elphick and H. Hicks, were re-elected.

Nominations for five members of *Council* were then received, and after a ballot the following were declared elected: Messrs. W. Lyle Stewart, J. W. Rider, H. Hicks, H. S. Elphick and T. Wilkinson.

The President then called on Mr. W. Lyle Stewart to present his remarks on "Malignant Catarrh in Bovines." [The remarks are reproduced, together with a report of the ensuing discussion, elsewhere in this issue.—ED.].

ANY OTHER BUSINESS.

Mr. TAYLOR referred to Colonel Simpson's letter appealing for increased effort by the ladies on behalf of the Victoria Veterinary Benevolent Fund. The letter had appeared in a recent issue of the *Veterinary Record*, and Mr. Taylor hoped that the appeal would meet with a generous response within the North of England Division.

The President replied that much thought had been given to the proposal and that Mrs. Peele proposed to call a meeting of ladies in the near future to consider the best method of procedure.

Mr. DAVIDSON gave notice that at the next meeting he would move that the following amendment be incorporated in the rules.

> "Two members of Council shall retire annually, and shall be ineligible for re-election for a period of twelve months."

A vote of thanks to the President for his conduct in the chair brought the proceedings to a termination.

J. R. RIDER,
Hon. Secretary.

North Wales Division.*

ANNUAL MEETING AT WREXHAM.

MR OSCAR STINSON ON POINTS IN BOVINE PRACTICE.

The Annual Meeting of the North Wales Division was held at the Wynnstay Hotel, Wrexham, on Friday, November 16th, 1928. Until the arrival of the President, Mr. Matthews, the senior Vice-President, Mr Mills, occupied the chair. The other members present included:—Messrs. Cane, Cartwright, Edwards, T. W. Hughes, R. Jones, Llewelyn Jones, Wynn Lloyd, Dr. Montgomerie, Messrs. Roberts and Savage, Dr. Share Jones, Messrs. H. Williams and H. V. Hughes (Hon. Secretary). Mr. Stinson (Appleby) attended as a visitor and was accorded a hearty welcome by the Chairman before being introduced to the members.

Apologies for absence were read from Principal Hobday, and Messrs. J. Hughes and Wynne.

The Secretary read a letter from the Secretary of the Victoria Veterinary Benevolent Fund appealing for support. He had brought with him one of the Society's collecting boxes which members would find on the table, and he urged them all to contribute to this deserving charity.

A letter from the Secretary of the National Horse Association was read. The objects of the Society were brought before the meeting, but it was resolved that no action with regard to the Division becoming affiliated to the Association be taken for the time being.

The Hon. Treasurer, Mr. Richard Jones, was then called upon to present the balance-sheet. This revealed the fact that the balance was well on the right side. The Chairman and the Secretary spoke of the valuable work which Mr. Jones had performed on behalf of the Society for so many years and it was agreed that the best thanks of the members be tendered to Mr. Jones for his work.

ELECTION OF OFFICERS.

The election of officers for the ensuing year was next proceeded with, and resulted as follows:—

President:—Dr. J. Share Jones.

Vice-Presidents:—Messrs. J. Matthews and J. H. Wynne.

Hon. Treasurer:—Mr. H. Llewelyn Jones.

Hon. Secretary:—Mr. H. V. Hughes (re-elected)

Additional Members of Council:—Dr. R. F. Montgomerie (re-elected) and Mr. W. H. Savage.

Auditors:—Dr. R. F. Montgomerie (re-elected), and Mr. L. W. Wynn Lloyd.

The arrangements for the next meeting were left in the Hon. Secretary's hands.

The Secretary reported that the Council of the Division had met upon only one occasion during the year, when the business was to sanction the payment of accounts for the session.

The meeting then considered the question of the duties of the Veterinary Inspectors' Section. With regard to the membership of the section, Dr. SHARE JONES proposed that all the members of the Society should constitute themselves into a committee of Veterinary Inspectors

* Received on 16th January.

for the purpose of dealing with such questions as might be referred to it as a Veterinary Inspectors' Section. Mr. R. JONES seconded the proposal. Several members joined in the discussion, which, however, had to be adjourned, without coming to a decision, in order to allow time for Mr. Stinson to give his address and demonstration.

ADDRESS AND DEMONSTRATION BY MR. OSCAR STINSON.

The PRESIDENT then called upon Mr. Stinson to address the meeting, and said how pleased he was to welcome him in their midst that afternoon. Mr. Stinson was one who was fast making a name for himself. As all the members were well aware, he had been performing one or two new operations with very marked success; in fact, so far as he knew, no other had been so prominent as he had been in connection with these operations. He looked forward with very great pleasure to hearing him and seeing him demonstrate.

Mr. OSCAR STINSON, who was applauded on rising to speak, said that he was only too glad to accept the invitation of the Secretary to come over and speak to the members of the Society. He was glad to meet practitioners in cattle practice, for he was himself keen on cattle, and he thought that an interchange of opinions was always advantageous to both parties. Teat surgery was a branch of their work which was interesting him at the present time, and he felt that they had there a new sphere of usefulness. Teat surgery was, of course, of paramount importance, and he believed that they might now do a lot of good work in connection with this part of the udder instead of lagging behind, as they must confess they had done in the past. He hoped that afternoon to demonstrate to the members the crucial incision operation for the relief of the sphincter of the teat, and it might be mentioned, by the way, that the operation very effectually satisfied two of the most important rules of surgery, *viz.*, (1) antisepsis and (2) rest of the part. He also wished to say something about bovine obstetrics—not that he dared to teach them as a class of students—he respected the opinion of men who were daily engaged in obstetrical work too much to do that.

Rothera's test for acetone.—Before proceeding to these matters, however, he thought it might interest some of the members present if he were to demonstrate Rothera's test for acetone in post-partum dyspepsia. The test was a simple one and was always reliable. Until recently it was the custom to rely upon the smell in the milk as diagnostic, but, as the speaker had recently pointed out in an article in the *Veterinary Record*, in many cases of the disease there was no odour whatsoever of acetone in the milk—the acetonæmia being secondary—but merely an exaggerated smell of new milk. The technique described by Mr. Stinson was briefly as follows:—

Add 20 minims of Rothera's test solution—consisting of equal parts of glacial acetic acid and a 10 per cent. solution of sodium nitroprusside—shake well and allow to stand a minute. Now pour half a drachm of liquor ammon. fort. with great care down the side of the phial so that it will lie on the top of the milk, and allow the mixture to stand. In from three to fifteen minutes, if acetone is present, a pale fuchsia ring will appear at the junction of the liq. ammon. fort. with the milk. Mr. Stinson then performed the test on some suspected milk which he had brought with him, and in about five minutes the typical reaction appeared. He emphasised the fact that, as in most colour reactions, it was best performed in daylight. It was interesting to note that Mr. Stinson had on occasions found that the milk from cows suffering from milk fever reacted positively to the test.

Mr. Stinson was asked by a member what treatment he advised for post-parturient dyspepsia, and, in reply, stated that the first efforts in the treatment should be directed towards decreasing the milk secretion. It was his opinion that something essential to the well-being of the animal was being constantly taken from the system—which something was one of the constituents of milk. He thought it quite possible, and indeed probable, that it was calcium. This was in line with Dryerre's and Greig's theory of calcium deficiency in milk fever. He also advised the liberal administration of sodium bicarbonate—given every hour in a serious case—*per os* or *per rectum*.

In answer to other questions, Mr. Stinson remarked that ammon. chlor. had been used with some success. He also stated that if a case were untreated it would no doubt recover unless the nervous form of the disease supervened. The turning point in those cases which recovered was when the time came that the patient was so ill that she gave practically no milk. The reason for the protracted course of the disease was that frequently the cows were such heavy milkers. He considered that the milk from a cow suffering from post-parturient dyspepsia would not be harmful to human beings.

The Crucial Incision Operation.—Mr. Stinson then proceeded to demonstrate the crucial incision method of operation for the relief of sphincter of the cow's teat. Unfortunately, it had been impossible to obtain in the district an animal which required such an operation performed upon it, but the four normal teats of a heifer had been procured, and with these Mr. Stinson was able to illustrate his method. The instrument which Mr. Stinson first produced was a small flattened stylet, not more than 1½ins. in length, bluntly pointed at one end, and having at the other end on one side a ring—such as is found on the ordinary teat syphon for threading the tape through for safety—and at the other side a thin rod. At this end, and between the ring and the rod, was a narrow cleft or slot sufficiently wide just to allow a safety razor blade to pass through it, and extending towards the free extremity $\frac{1}{12}$th of an inch beyond the level of the ring and the rod. The stylet was passed as far as possible into the canal of the teat, then a safety razor blade—with a guard along its back, such as in the Ever-ready type—was passed into the slot, and since this extended $\frac{1}{12}$in. beyond the level of the rod into the lumen of the teat canal, the blade was enabled to cut the extremity of the teat for a distance of $\frac{1}{12}$in. The stylet was removed and was then inserted into the teat canal in a plane transverse to the first insertion. The ring and rod were thus enabled to pass into the incision and a second incision was made in a similar manner to the first. In this case, however, not only was the incision across the first, but it was $\frac{1}{12}$in. deeper. The result of the two incisions was that the extremity of the teat, with the sphincter within it, was cut to a depth of not more than $\frac{1}{8}$in. by two crucial incisions. The free extremity

of the canal thus gaped and the sphincter was relieved to that extent. The ring and rod were, in practice, Mr. Stinson stated, inserted into the previous incision and further incisions made until the flow of milk, when drawn by the hand in the usual way, was much better than its fellow of the opposite side. In practice, too, Mr. Stinson said that he used to cast the animal at first, and he would recommend those who were attempting the operation for the first time to do likewise. Later they would become accustomed, as he had done, to perform the operation standing, with only a rope around the back to tie the animal to the side of the stall. He did not think it was necessary to use any local anæsthesia, and there was little, if any, hæmorrhage. The important point was to see that the blade was held straight across the end of the teat, otherwise the incision would be oblique. The after-treatment consisted in rubbing off the scab before each milking and then applying Antiphlogistine or some emollient antiseptic. The wound would heal in from four to ten days. The indications for the operation were numerous, and included bruised teat ends, hard milkers, contagious black spot, garget, etc. Tight milkers giving bloody milk were also suitable subjects for operation. In cases where there is a papilloma in the canal at the teat end, one should first use the stylet, then insert a suitable instrument and withdraw the papilloma.

For this demonstration Mr. Stinson used the type of instrument described, but he showed three other varieties to the meeting; these differed only in minor respects, and were for those cases in which the stream of milk was oblique. In this case the stylets carried an oblique slot and the incision would be made in an oblique direction opposite to that in which the milk flowed.

Bovine Obstetrics.—The other topic upon which the speaker dwelt was Bovine Obstetrics, and in doing so he said that he felt that he was carrying coals to Newcastle, for his listeners were no doubt in almost daily contact with cases of obstetrics and consequently were men of experience. Mr. Stinson spoke at length upon many of the problems associated with the subject. In considering the delivery of a calf from a heifer, the presentation being normal, he emphasised the importance of delivering the head before applying severe traction on the legs. After delivery it was important thoroughly to disinfect the vagina—this was achieved admirably by massaging, pure iodoform into the walls of the vagina. He considered that the distressing cases of acute vaginitis which one often saw were due to the fact that when laymen attempted delivery they did not use lubricants in the vagina and were not aware of the above-mentioned points of procedure. Speaking of the breech presentation in the heifer, the speaker recommended slinging the heifer up, the buttocks being shoulder high, before attempting to rectify the position of the calf. After the first calving the manipulation could usually be accomplished while the cow was in the standing position, but in these cases if the uterus was in a state of tonic contraction—whatever the presentation might be, it would be safer to sling the cow up before attempting manipulation, otherwise, as in the case of the heifer, the uterus might rupture.

Dealing briefly with other conditions met with in bovine obstetrics, Mr. Stinson mentioned that embryotomy was best performed with the aid of Bowden (throttle) wire, or some similar material, and he was of the opinion that the wire was indispensable to the cattle practitioner.

In torsion of the uterus there need be no hesitation about rolling the animal in either direction. No harm could be done in rolling the patient in the wrong direction the first time.

When an emphysematous fœtus was encountered, severe traction should not be applied until the skin had been well incised and lubricants had been applied. With regard to lubricants, Mr. Stinson said that a pound of lard, repeated if necessary, made an efficient lubricant. It might be said that frequently a heifer's life could be saved by the use of sufficient lubricant.

The removal of the placenta after a difficult case of calving should, if practicable, be carried out as soon as possible. The uterus and vagina might then be thoroughly disinfected with pure iodoform. The speaker here mentioned, in passing, that he frequently used as much as four ounces for this purpose. The sooner the uterus contracted the less would be the danger of its becoming infected. In cases presenting the possibility of vaginitis, too, it was an advantage to have the placenta removed as soon as possible. Another point mentioned was the advisability of having the milk drawn from the udder immediately after calving, for this greatly assisted in causing the contraction of the uterus.

Chloroform anæsthesia was, in the speaker's opinion, of great value in many cases of calving, particularly in heifers. He considered that laceration of the vagina was a very rare occurrence when chloroform had been used—1½ ozs. were frequently sufficient when given in one dose, but sometimes 1oz., followed by ½ oz., might be indicated.

Delayed dilation of the *os uteri* was often troublesome. Patience and the waiting policy, with the administration of 2 to 3 ozs. of chloral hydrate was often a useful procedure. If that was unsuccessful, the os should be incised—two lateral incisions, and a third superiorly, if necessary, would be sufficient to gain an entry into the uterus. It was important here to get the head through the os before attempting severe traction. In these cases, too, the placenta should be removed as early as possible after delivery.

A profitable discussion followed Mr. Stinson's address, in which the members took a lively interest. Mr. Wynn Lloyd illustrated his remarks with a demonstration of his own type of wire, oilskin overalls for obstetrical work, and hobbles.

The President than proposed, and Mr. Mills seconded, a hearty vote of thanks to Mr. Stinson for his instructive address and demonstration. The Secretary added his quota of thanks to Mr. Stinson and also expressed his indebtedness to Mr. Cane, who had rendered valuable assistance to him in helping to make the meeting a success. A brief reply by Mr. Stinson terminated a very enjoyable afternoon.

Howel V. Hughes,
Hon. Secretary.

The Crucial Incision Operation.

In connection with the operation detailed in the foregoing report of the North Wales Division, we have in our posses-

sion a letter expressing the gratitude of both owner and veterinary surgeon at the completely successful result of the operation on the Friesian cow which was the subject of Mr. Stinson's operation at the November meeting of the Midland Counties' Division meeting at Birmingham.

The following history of the case before the operation will no doubt be welcomed by the bovine practitioner.

The cow had an injured teat-end, near the end of the lactation period. Veterinary assistance was not obtained, but the quarter was allowed to "dry off." In the healing the sphincter became completely occluded, its direction becoming altered. After the next calving veterinary attendance was obtained. An artificial sphincter plumb through the teat-end was made and kept open by the aid of a bougie which, on occasion, came out, making it impossible to get milk from the quarter. Operative interference was therefore directly indicated.

Removal of Greyhound's Dew-Claw.

BRISTOL PRACTITIONER'S SUCCESSFUL DEFENCE.

At Bristol Tolzey Court on January 8th, before the Recorder (Mr. H. Holman Gregory, K.C.) Mrs. Flora Alice Jarrett claimed £49 11s. damages against Charles Evans Perry, of Hill View, Staple Hill, in respect of injury to her Greyhound dog. Mr. A. Myddelton Wilshere was for plaintiff, and Mr. Cyril Williams for the defendant.

Mr. Wilshere, in opening the case, said that plaintiff was the wife of William Joseph Jarrett, licensee of the Terminus Hotel, Temple Gate, and defendant a veterinary surgeon. Mrs. Jarrett was interested in Greyhounds, which she bought and trained for the purpose of racing and coursing. She was the owner of a dog named Silver Case which was whelped in March, 1927, and for which she paid £40. When it was 15 months old and an untrained dog, Mrs. Jarrett put it on trial to see what it was capable of doing. She took it to the Rovers Greyhound Co., Ltd., on the Bristol Rovers Ground, and it accomplished a very remarkable performance in something like record time. She was so satisfied with the trial that she decided to enter it for a sweepstake, and left the dog with the trainer. The same afternoon (July 10th) she received a telephone message and went out to the ground. She found the dog bleeding very badly from the off front foot. She was told that upon being taken from the track the dog had split the nail known as the dew-claw, and Mr. Perry, the veterinary surgeon appointed by the Company, instead of doing his best to attend to the split nail, removed the dew-claw altogether, and thus rendered the dog useless for racing. A Greyhound needed the dew-claw as a lever in turning, and the value of a Greyhound depended upon its ability to turn sharply. The dog had been tried since, and it could not turn on one side; in fact, it skidded on the bends. He submitted that without any authority from plaintiff the dog was operated upon in such a way that it was rendered useless for racing or coursing.

Mrs. Jarrett said that at Knowle Silver Case won four trials in excellent time by never less than five lengths. On July 10th the dog was given a trial with three others at the Rovers' ground. It won easily, and of the five stop watches used three showed under 30 secs., and two 30 secs. dead. She thereupon immediately entered the dog for a valuable sweepstake to be run in August for a £25 silver cup. Silver Case was left for the purpose of training, the fee being £1 per week. She refused an offer of £80 before the dog was injured, and now it was valueless except as a pet.

Frederick Taylor, a dog trainer, formerly head trainer of the Rovers' Greyhound Company, who had held a licence for 40 years, said he saw the trial which Slver Case won, and he was led away by a kennelman. Witness noticed the split nail, but he did not hear anything about the operation until after it took place. He put the value of the dog before the operation at £100, but the value as a Greyhound to-day was according to the customer who could be found. (Laughter.) As an expert he would give nothing for the dog now without its dew-claw. He was not aware that there was a champion Greyhound without dew-claws that had won fifteen first and fourteen seconds in forty-eight races. He admitted that fourteen days ago Silver Case won a heat at Frome, and added that Silver Case did actually take part in the August sweepstake for which it was entered.

Matt Kennedy, head trainer at Knowle, said he had thirty years' experience with Greyhounds, and had trained Waterloo Cup winners. Silver Case had been out for recent trials, and every time it pulled up lame owing to tenderness where the dew-claw had been removed, and it could not get round the bends. He agreed that if the dew-claw was hanging off it ought to be taken off, but if it was only the nail injured there should have been no operation, as the nail would grow again. On no account should a dew-claw be removed to the first joint only as in the present case.

"UNNECESSARY APPENDAGE."

Charles Evans Perry, F.R.C.V.S., of Staple Hill, said he was appointed veterinary surgeon to the Rovers' Greyhound Co., Ltd. On July 10th, as he was leaving the track his attention was called to Silver Case. The dog was suffering from an injury to the dew-claw. The nail was hanging, the animal was in pain, and he decided that the dew-claw must be removed. Witness fetched antiseptic dressing, a solution of cocaine, and the operation was conducted properly. Something had to be done, and he removed all the damaged tissue purely from a humane point of view. In his opinion the injury was such that the nail would not have grown again. He did not go beyond the first joint as he only did that which was essential and necessary. He thought dew-claws were unnecessary appendages and more trouble than they were worth to Greyhounds, as they got in the way.

John Bannister, a trainer at the Rovers' Greyhound Track, said the dog was obviously in pain, and Mr. Perry did everything that was humanely possible. The dog rapidly recovered and was racing again in a comparatively short time.

Professor J. McCunn, of the Royal Veterinary College, said Mr. Perry did the only thing possible under the circumstances. In his view the dew-claws' use in racing was merely theoretical. The muscles were atrophied and there was no development, which went to show that they were not used.

George Ernest Henson, M.R.C.V.S., Clifton, veterinary surgeon to the Knowle course, said nothing else could have been done at the time by Mr. Perry, and he did nothing improper. He could not conceive a dew-claw touching the ground, and he did not accept the theory that the dew-claw helped a racing dog. He had a dog which had won races since having its dew-claws removed.

After legal argument the Recorder said by agreement between the parties the question at issue was whether Mr. Perry satisfactorily performed his work properly.

The jury found for defendant, and judgment was entered for Mr. Perry with costs.

Western Daily Press.

Foot-and-Mouth Disease in the Argentine.

MR. HARRY GERMAN'S REPORT TO THE NATIONAL FARMERS' UNION.

In the course of this report, issued towards the end of last year, the author states:—

"I believe the impression of the general body of agriculturists in this country has been that foot-and-mouth disease exists to such an extent in the Argentine that in the daily killing at the frigorificos quite a number of the animals that are killed for the purpose of being chilled and sent to this country are suffering from foot-and-mouth disease at the time of killing. In fact, I remember Sir Stewart Stockman, some four years back, ringing me up and

asking me to go down to his office to listen to what a gentleman, who had just returned from the Argentine, had to say with regard to this. This man stated quite openly that at least half the beasts killed at the frigorificos were suffering from foot-and-mouth disease. I am not in a position to state definitely if this statement was correct or not four years ago, but I can state that during my stay in the Argentine I saw at least 25,000 cattle at the places I visited, mainly at the frigorificos, Matadoras Market, in the camps of the Smithfield and Argentine, with Mr. Duggan, Dr. Frood, and on some occasions with Dr. Rodger also, and I did not see one case of foot-and-mouth disease. . . . ."

Mr. German then refers to the measures taken by the Argentine Government, in accordance with the agreement with the British Government, citing the regulations *verbatim*. He then describes in the minutest detail the methods for the inspection of the animals in the camp, frigorificos, auctions, and markets, and proceeds:—

"I have to the best of my ability set out the regulations now in force in the Argentine and Uruguay, and my efforts to study how far they would prevent the import of foot-and-mouth disease into this country.

"I have arrived at the following conclusions:—

"(1) I have the greatest confidence that the Ministers of the Republics of Argentine and Uruguay intend to see that the orders issued are carried out.

"(2) No one could doubt the ability and zeal in enforcing the regulations shown by the Director-General of Live Stock, Dr. Lanusse, and the other responsible officials.

"(3) The work of the veterinary inspectors and their assistants at the frigorificos and the markets appeared to me to be very thorough.

"(4) I found that the general managers of the frigorificos were determined that every care should be taken to prevent any carcases or animals suffering from foot-and-mouth or contact animals, being sent to England.

"(5) I am of the opinion that at the present time there is very little risk of the animals which are sent direct from the camps to the frigorificos suffering from foot-and-mouth at the time they are killed, and these animals are the great majority of the carcases sent to this country.

"(6) The animals sent to the frigorificos from the markets of Matadoras in the Argentine and Tablada in Uruguay and other smaller markets in both countries are in my view more likely to have foot-and-mouth in its early stages than those sent direct from the camps, but here again every possible care with regard to inspection is being taken.

"I wish to congratulate the Governments and officials and the rural societies on the wonderful manner in which they have dealt with this question in the very short time they have had it under consideration. I feel sure that if I venture to make certain criticisms of what is being done or what could be done, this criticism will be taken in the spirit in which it is given, and I only venture to make this criticism because:—

"(1) We have the definite statement of the scientist that foot-and-mouth disease can be conveyed to the living animal through the virus surviving in the marrow in the bones for a very long period.

"(2) I have had the opportunity for over 6½ years of gaining experience of factors in the spread of the disease in this country both by direct personal study on the spot and by almost daily contact and discussion with the officials of the Ministry of Agriculture in this country.

"(3) Whilst by the slaughter policy we are continually clearing this country of foot-and-mouth, we get new outbreaks . . . ."

"As far as possible I enquired into other matters which might be the cause of bringing foot-and-mouth to this country. I found that there could be no possible danger through hides and wool from the frigorificos. I was not so satisfied with regard to the dried hides from animals killed by local butchers or on the camps, or with regard to the wool of the sheep shorn on the camps. The enquiries I made pointed to the fact that there was not much, if any, danger so far as cereals were concerned. In my opinion, all cloths and sacking that are used for wrapping up the carcases should be destroyed or thoroughly disinfected when taken off the carcase in this country.

"I wish to congratulate our Ministry of Agriculture and Dr. Frood on the able manner in which the latter has carried out his very difficult duties. He was with me the whole of the time I was in the Argentine and Uruguay, and it was plain to me that he enjoyed the confidence of the Ministers of Agriculture, the permanent officials, and the managers of the frigorificos. They are always willing to listen to him and to examine all his proposals.

"In my opinion, to carry out his work in a proper manner Dr. Frood's staff should be increased. It is impossible for two men to cover the huge area of South America from which meat is exported to this country, and Dr. Frood should have one assistant each for The Argentine and Uruguay; Brazil and Paraguay; and for Chile."

"Horses Coming into their Own."

History and Optimism at the Farriers' Dinner.

Under the above-quoted heading the *City Press* of 25th January gives an extended report of a Livery Dinner of the Farriers' Company, which was held at Carpenters' Hall, on the 18th of the month.

At the dinner it was stated, says the *Press*, that the number of horses in the City was increasing, and that the Company had registered more than 9,000 shoeing smiths. The hope was expressed that in the near future the examinations would be extended to the British Dominions.

Mr. Alderman Neal, in proposing "The Worshipful Company of Farriers, and the Master thereof," said that the Company was one of the oldest Companies, and the reason was that it was related to one of the oldest trades known. He remembered some years ago standing in a narrow street in the old City of Pompeii. The road was paved with stone, and on each side of the road there were deep ruts. Those ruts, it was said, were made by the chariot wheels of the Romans before the city was annihilated by the great outbursts from Vesuvius in A.D. 63 and A.D. 79. Also in the middle of the road there were unmistakable evidences of the horses' shoes having worn holes in the stone itself. Therefore, nearly two thousand years ago the horses were shod with iron. Iron was also used in this country more freely after the invasion of the Romans in the first century. There was unmistakable evidence during the four centuries of the Roman occupation that the Romans were accustomed to use shoes for their horses in this country as they did in Italy. It was, therefore, clear that the trade of the shoeing smith was one of the oldest known. When William, Duke of Normandy, landed on these shores in 1066, one of his followers was named Ferriers or Ferrier, and, because he was appointed to look after horse shoeing, the trade from that time forward was known as the farriers'.

More Horses in the City.

Horse traffic had been to a large extent superseded by motors. Nevertheless, there were still horses within the City, and, from his own observation, he might say that the number of horses was steadily increasing. Consequently it would be still necessary for the shoeing smith to pursue his trade. In 1890 the Company took upon itself the responsibility of education in respect of shoeing, and arranged examinations. Not content with that, in 1908 it offered higher examinations, and still further education. The Company also offered prizes for proficiency in the trade.

The Master, responding, said that through the efforts of the Registration Committee of the Company, considerable extension of its interest in such objects as the welfare and efficiency of the trade with which its name was so closely associated had been obtained. In that respect, he, on behalf of the Court and Livery, congratulated the Company on being in a position to announce that Sir Walter

Gilbey, Bt. (the Chairman of the National Horse Association), Mr. E. A. West, F.R.C.V.S., and Mr. T. B. Turner (Secretary of the Royal Agricultural Society of England), had, on the invitation of the Registration Committee, joined that body. He felt sure that, with such added strength, the Company's work for the benefit of man's greatest friend, the horse, would in the future be greatly amplified.

Major Brennan De Vine, replying to the toast of "The Livery," said he hoped in the near future to see compulsory registration for shoeing horses in this country. Roads, he declared further, were made for the accommodation of motors, and were not fit for horses to-day.

The "Field" Distemper Fund.

The Inoculation for Distemper.

(*Reprinted from The "Field,"* 31st Jan., 1929).

In the course of the work on dog distemper which Dr. P. P. Laidlaw and Major G. W. Dunkin have conducted for the *Field* at the Mill Hill Laboratories, and which in their hands has resulted in the discovery of an infallible preventive of the disease, some 2,000 dogs have been treated by the method of double inoculation. Out of these 2,000 treatments there have been fourteen failures. The rest of the cases have been completely successful. Fourteen unsuccessful cases represents less than one per cent. of failures, which would not in itself be in any way remarkable. There is a special reservation to be added in respect of these cases. Of the 2,000 dogs which have been inoculated only a proportion have received treatment under the skilled supervision of Mill Hill. Many others have been treated by veterinary surgeons elsewhere acting under precise directions received from the scientific investigators. Directions and instructions, however precise, are not necessarily carried out with scientific precision. The inoculation may have been administered to a dog unsuited at the time to receive it; the correlation of the primary and secondary inoculations may not have been rightly observed. There are other circumstances which may militate against success, and a case which has received some publicity is quoted below, together with the explanation by Dr. Laidlaw and Major Dunkin of reasons which probably account for the circumstances. The scientific investigators, in giving further publicity to it in the columns of the *Field*, feel that by doing so they are not merely disposing of a "case," but are contributing necessary information as to the proper administration of the preventives, both in respect of what to do and what to avoid.

The following letter has reached us through Mr. A. Croxton Smith, who was asked to forward it to the *Field* by its writer, Mrs. F. V. Schuster, Wadhurst, Sussex. Mr. Croxton Smith adds that a footnote to it by Dr. Laidlaw and Major Dunkin might be useful, because he gathers that great care has to be exercised over the inoculation. In both surmises he is right, and the letter and the explanation follow.

Mrs. Schuster writes:—

Dear Sir,—In view of the statements that have recently appeared in the *Times*, the dog journals and elsewhere as to the complete success of the *Field* Distemper Vaccine, the experience with this vaccine of our (Nunnes-hall) kennels is instructive, and at my request my veterinary surgeon has kindly written a brief report, as follows:—

"The subjects for vaccination were nine Alsatian puppies (in two litters), born on August 20th and 22nd, 1928.

"Previous to vaccination I had seen them on an average of twice a week. They were strong, healthy and vigorous puppies, already ready for their food, showing no sign of disease.

"Before inoculation the temperature in each case was normal.

"Under strict aseptic precautions the first inoculation was given on November 10th last. The temperatures were recorded bi-daily. There was considerable variation of temperature in nearly all cases; most of them reached 105°. The appetites remained fairly good. The second inoculation was given on November 17th, and caused little systemic disturbance; the highest temperature recorded being 103°.

"About ten to twelve days afterwards four of the puppies were noticed to have a slight watery discharge from eyes and nose. They were immediately isolated. The discharge increased, rapidly becoming muco-purulent.

"In spite of every attention they quickly grew worse. Convulsions ensued, with profuse salivation. As they were hopeless cases the owner had them disposed of.

"One other puppy showing no symptoms whatever suddenly developed severe hysteria. The attacks becoming continuous, it had to be destroyed.

"The remaining puppies are in excellent condition. Neither the bitches nor puppies have been in contact with any sick animal, nor has any strange dog been admitted to the grounds.

"Three of the remaining puppies' teeth show what is known as distemper teeth, *i.e.*, great discoloration."

I need only add to this that puppies, sold before the treatment, have remained healthy, and the one of the four survivors whose teeth the veterinary surgeon was unable to examine had been sold after the treatment, and suffered for a time, we were informed, from discharge and loss of appetite; but I have no later information of her.

This is written, of course, in no spirit of criticism: we have always had the greatest admiration for the work of the *Field* Distemper Fund, and have done our best to support it. It seemed, however, our duty in justice to other breeders to warn them that the effects of the vaccine do not yet appear to be thoroughly understood: that it may in some cases, which we will hope are exceptional, prove to be definitely deleterious, or, if not, at the least ineffective in preventing distemper, from which our puppies evidently died. I have heard of similar cases, and it is to be hoped that other breeders will also be willing to give their experiences. I should add that my veterinary surgeon kept in close touch with the laboratories at Mill Hill throughout.

Yours truly,

Mrs. F. V. Schuster.

This letter has been submitted to Dr. Laidlaw and Major Dunkin, who write:—

The experience recorded above is most regrettable, and we have every sympathy with Mrs. Schuster in the very unfortunate result which followed the employment of the method which we advocate for the immunisation of dogs against distemper.

The veterinary surgeon records that the temperatures of most of the dogs following the administration of vaccine was variable, and "most of them reached 105°.

Our vaccine consists of sterile material, and we have never seen (in our experimental animals), or had reported to us, in the case of privately owned dogs, temperature reactions of this kind following the administration of vaccine. The particular batch of vaccine which was used in this instance was tested by us, before any was issued, in accordance with our rule, and gave perfectly good results. Further, the same vaccine was sent out on the same day as it was supplied to Mrs. Schuster's veterinary surgeon to three other veterinary surgeons, and we have received satisfactory reports in all these cases.

(*Continued at foot of first column next page.*)

NOTES AND NEWS.

The Editor will be glad to receive items of professional interest for inclusion in these columns.

Diary of Events.

Feb. 11th—Meeting of the Editorial Committee, N.V.M.A., 10 Gray's Inn Square, W.C.
„ 13th—Meeting of the Joint Sub-Committee of the Editorial and Finance Committees, N.V.M.A.
„ 14th—Meeting of the Lincolnshire and District Division N.V.M.A., at the George Hotel, Grantham.
„ 15th—Meeting of the North Wales Division N.V.M.A., at the Cartmel Hotel, Colwyn Bay.
„ 23rd—Annual Meeting of the North of England Division N.V.M.A., at Newcastle-on-Tyne.

The Royal Veterinary College Rebuilding Fund.

MESSRS. SPRATTS AND THE NATIONAL DOG WEEK COUNCIL RAISE £5,000.

At the annual social gathering of Messrs. Spratts Patent Ltd., which was held on Saturday last, Principal Hobday, who was present, was the recipient of a cheque for £5,000, the first instalment of a minimum sum of £20,000, which this firm have undertaken to raise towards the cost of rebuilding the Canine Department of the Royal Veterinary College, bringing the equipment up-to-date, and endowing a Chair of Canine Medicine and Surgery. The National Dog Week Council is devoting its services to this effort, the expenses of which are being met by Messrs. Spratts Patent Ltd. The sum of £5,000 now handed over represents the results of last year's operations, and was passed to Messrs. Spratts by the National Dog Week Council, who, in turn, transferred it to Principal Hobday.

. . . . . .

University of London Animal Welfare Society.—At a meeting of the University of London Animal Welfare Society, held on the 21st November, 1928, the following resolution, proposed by Captain Robinson, seconded by Mr. Fitzgerald, was carried unanimously :—

"Recognising the valuable work carried on by the Royal Veterinary College in connection with the health of animals, this Society supports the R.V.C. and will co-operate in the common endeavour of furthering this definite aim. For the time being the U.L.A.W.S. desires that any financial support which the Society may be instrumental in raising should be devoted to clinical work."

University of London.

REGISTER OF BOARD OF STUDIES FOR 1929.

Veterinary Science.

(a) Teachers of the University.

Bulloch, Professor William, M.D., C.M., LL.D., F.R.S., London Hospital, E.1. Lond. H.M.C.
Cave, Professor Thomas William, F.R.C.V.S., South-Eastern Agricultural College, Wye, Kent. S.E.Agr.C.
Clough, George William, D.Sc., Royal Veterinary College, Camden Town, N.W.1. R.Vet.C.
Evans, Thomas James, M.A., Guy's Hospital Medical School, S.E.1. Guy's H.M.S. and R.Vet.C.
Hare, Tom, M.D., Ch.B., B.V.Sc., M.R.C.V.S., Department of Pathology, Royal Veterinary College, Camden Town, N.W.1. R.Vet.C.
Roaf, Professor Herbert Eldon, D.Sc., M.D., L.R.C.P., F.R.C.S., 8 Arkwright Road, Hampstead, N.W.3. Lond. H.M.C.
Symes, William Legge, M.R.C.S., Oakley, 39 Manor Road, Teddington, Middlesex. St. Thos. H.M.S. and R.Vet.C.
Wallace, Sir Cuthbert Sidney, K.C.M.G., C.B., M.B., L.R.C.P., F.R.C.S., 26 Upper Wimpole Street, W.1. St. Thos. H.M.S.
Willcox, Sir William Henry, K.C.I.E., C.B., C.M.G., M.D., B.Sc., F.R.C.P., F.I.C., F.C.S., D.P.H., 40 Welbeck Street, W.1. St. My's H.M.S.
Wooldridge, George Henry, F.R.C.V.S., Royal Veterinary College, Camden Town, N.W.1. R.Vet.C.

(b) Other Persons.

Hobday, Frederick Thomas George, C.M.G., F.R.C.V.S., F.R.S.E., Principal, Royal Veterinary College, Camden Town, N.W.1.
McFadyean, Professor, Sir John, LL.D., C.M., M.B., B.Sc., M.R.C.V.S., F.R.S.E., Highlands House, Leatherhead.
Moore, Major-General Sir John, K.C.M.G., C.B., F.R.C.V.S., 16 Frognal Lane, Hampstead, N.W.3.

Ministry of Transport and Slippery Roads.

In the House of Commons on Tuesday last, Lieut.-Col. Fremantle asked the Minister of Transport whether he had taken or contemplated any action in connection with the question of slippery roads in the interest of both motor traffic and of horses.

Colonel Ashley : So long ago as June, 1925, a letter was issued from my Department to all county surveyors on the subject of slippery roads, recommending appropriate remedial measures. More recently, with the assistance of the County Surveyors' Society, the Asphalt Roads Association, and other technical bodies, specifications for various types of road construction have been drawn up embodying what my officers consider to be the most approved methods that can be adopted in order to combine sound construction with adequate foothold. These specifications have now been published by the British Engineering Standards Association, and I am proposing to issue a circular to all local authorities drawing their attention to the need for the general application of these improved methods. At the same time, I am circulating recommendations as to the best means to be adopted for the treatment of existing road surfaces.

(*Continued from previous page.*)

The occurrence of severe fever in this group of animals just after the administration of vaccine convinces us that the vaccine must have been injected into dogs which were in the incubative period of some infection, even though they appeared at the time perfectly normal, and therefore the response to the vaccine could not be expected to be good. Even if this explanation is not accepted, we consider that, in view of the development of the fever, it would have been wiser to have discontinued the immunisation for a time and withheld the injection of virus.

P. P. LAIDLAW,
GUY W. DUNKIN.

Mr. Montague: Why not in the interest of pedestrians as well as motorists?

Colonel Ashley: We are doing all we can to provide footpaths.

Sir B. Peto asked the Minister whether his attention had been called to the action brought by Major Coldwell against the Somerset County Council and the Chard Rural District Council for damages for injuries sustained by Mrs. Coldwell owing to her horse falling on the slippery surface of the road, and whether, in view of the frequency of accidents of this nature to horses and other animals owned by farmers, he would make it a condition of a grant of assistance towards the making and maintenance of roads that local authorities should maintain the surface or a portion of the surface of all roads in such a condition that they could be safely used by animals.

Colonel Ashley: I am aware of these legal proceedings, and I fully share my hon. friend's desire that due provision should be made on highways for horses and cattle. So long ago as June, 1925, a letter was issued from my Department to all county surveyors on this subject. As to the steps now in contemplation, I would refer my hon. friend to the answer which I gave to the last question.

R.C.V.S. Obituary.

Haigh, Tylney, Bedford. Graduated, London, 17th December, 1901. Died, 28th January, 1929, aged 51 years.

MacGregor, Wm. A., senr., 3 Castlehill Road, Ayr. Graduated, Glasgow, 11th April, 1882. Died, 3rd February, 1929, aged 67 years.

Protection of Animals (Amendment) Bill.

With the House of Lords in Committee, on this Bill, on Tuesday of last week, Lord Danesfort moved a series of amendments to the Bill. He said that if they were accepted the measure would provide that if a man were convicted of cruelty to a dog it should be open to the magistrate not only to inflict a fine or imprisonment in the usual way, but to order that for such limited period as the Court thought proper the man should not be allowed to have a licence for a dog. The magistrate might also order the man not to apply for a dog licence for a fixed period. If the man, in violation of that order, applied for a licence and happened to get it, the licence should be void and the man would be liable to be proceeded against in respect of the dog as if he had no licence at all.

Lord Parmoor said that a Bill of this kind ought to be passed, as there was, in many cases, what he might call a very brutal form of brutality in the treatment of dogs. The administration of the Bill would be a very simple matter.

Viscount Bertie of Thame moved two new clauses to provide that a person applying for a dog licence should be required to sign a declaration that the licence was neither directly nor indirectly on behalf of a person whose licence had been revoked or suspended under an order of the Court, and that a person found guilty of making a false declaration under the clause should, upon summary conviction, be liable to a fine not exceeding £5.

The clauses were agreed to.

The Bill passed through Committee and was reported to the House.

Foot-and-Mouth Disease.

Further outbreaks of foot-and-mouth disease have necessitated restrictions in North Yorkshire and adjoining counties.

CORRESPONDENCE.

Letters to the Editor should reach the Office not later than by the first post on Tuesday morning for insertion in following Saturday's issue.

All correspondence must bear the name and address of the contributor for publication.

The Editor does not hold himself responsible for the opinions of his correspondents

The Incubation of Tuberculous Infection and the Development of the Capacity to React.

To the Editor of The Veterinary Record.

Sir,—The helpful communication from Mr. R. H. Smythe published in your issue of 26th January, invites us to make reply to elucidate further certain statements in our article published on the 5th, which seem to him to be at variance. We do this willingly under encouragement from his appreciative comments.

He quotes our article as follows: "It may be boldly stated that the recent infection of an animal with tuberculosis is not detected by the use of tuberculin," and perceives a possible discrepancy when we state: "In animals killed after reaction to two tests, simultaneously applied, we have on occasion utterly failed to determine the positive existence of any lesion of tuberculosis, although we had recourse to guinea-pig inoculation. . . . In other strong reactors, one lesion, or small lesions were only found after diligent search, and thus it is evident that a sufficient saturation with the lysin, that enables reaction to tuberculin, can be elaborated from foci (plentiful it may be), which are invisible to the naked eye or of which a few are just discoverable."

The two questions he then puts virtually ask us to reconcile these statements.

The explanation lies in the fact that "after tubercle bacilli have entered the system it takes more time to produce demonstrable lesions than to sensitise the system to the tuberculin test."

It is common knowledge that maximum reactions are got in animals which on *post-mortem* examination show almost no recognisable lesions of tuberculosis, but which we must assume have passed the stage of incomplete sensitisation and of doubtful reaction and become as completely saturated to sensitisation as they will ever be when the disease has become well developed. Indeed, it is generally conceded that the degree of reaction after complete sensitisation has occurred is no measure of the extent of the disease likely to be found when a *post-mortem* examination is made.

When we say that "recent infection is not detectable by tuberculin," we virtually state that there is in every case of infection a variable, and in some cases a considerable, period of latency before the stage of sensitisation to tuberculin is reached and it is during this period that infected animals are unfortunately so often certified in good faith by practitioners as having passed the tuberculin test. If our decisions are correct, and we regard them as well based, the *imprimatur* given to such cows would obviously be considerably modified if the certifying surgeons stated that they came from a herd that was not tubercle-free.

We have read with interest the other opinions expressed by Mr. Smythe, which show clearly that he is earnestly researching for the truth. Like him, we believe the intrapalpebral test is as good as any other, and has no peer. We are, however, surprised that he uses so much as 10 minims for diagnosis when the sensitising dose of 2 minims has not provoked a definite reaction.

We wonder if there is a modicum of truth in the view he ventures from his experience that pus formation operates to inhibit the development of (or perhaps neutralise) the lysins necessary to the production of the reaction. We can, however, definitely assert that we have found many

cases of well-developed post-pharyngeal abscess (snoring animals) react to tuberculin.—Yours faithfully,

HUGH BEGG, JOHN WEIR.

County Offices,
Hamilton.
1st February, 1929.

Bovine Tuberculosis.

TO THE EDITOR OF THE VETERINARY RECORD.

Sir,—The perusal of Captain Torrances's article which appeared in your issue of the 19th ult., and your editorial remarks thereon, give one seriously to believe that, with regard to tuberculosis alone, it is long past the time when our profession should have instituted a wide propaganda concerning the danger and wide-spread nature of this disease.

It is my experience that, generally speaking, the British public is unaware of, and that, in particular, the milk producer is apathetic towards, the terrible losses in life and health which have throughout the ages occurred and which still do occur, as the result of the need for a constructive national movement towards the prevention of tuberculosis.

Having spent the greater part of my professional career in the inspection of meat and milk-producing cows, and being now employed single-handed in a county containing approximately 3,000 farms (the vast majority of which are engaged in the production of milk) one feels that owing to the consequent impossibility of adequately dealing with the subject by having to rely mainly upon owners to report their suspicions, one is only playing with the fringe of that subject. One therefore attempts to educate these owners to recognise and report symptoms and I herewith enclose my little attempt at education for your kind perusal.

I would wish particularly to draw attention to the marked paragraph on page 8, which, if adopted, would, in my estimation, give the veterinary profession a real opportunity of proving its worth in the protection of public health, without mentioning benefits to the stock-owner.

[Our correspondent encloses his brochure "Bovine Tuberculosis and the Tuberculosis Order of 1925," the publication of which we brought to the notice of our readers in our issue of January 26th. The paragraph to which he refers reads as follows:—

"It was hoped that, when the Milk and Dairies Order came into force, it would have legislated for the licensing of every producer after a veterinary inspection of his herd; there being no question that the first essential to a pure milk supply is the certification of the apparent health, at any rate, of the producing animals. But, as things are to-day, the main point insisted upon by the Milk and Dairies Order is the acceptance by the local sanitary authority of the suitability of the premises to be occupied by the cattle and that in which the milk is to handled, *be the cattle what they may*. The British Public certainly deserves its milk produced under clean and hygienic conditions, but a thousand times more does it need and deserve its milk to come from only healthy cows."]

I heartily endorse Captain Torrance's and your views upon the Tuberculosis Order, which the responsible Ministry admit was never intended to eradicate bovine tuberculosis, and which, *per se*, it never will. At the same time, it is desirable to have proclaimed from the house-tops that it is essential to the protection of public health and to the benefit of the agricultural community that the routine veterinary inspection of all dairy stock be undertaken without delay.

The acuteness of my feelings upon this matter will be understood, I feel sure, when I state that already this year I have detected and caused the slaughter of three cows which were infecting hundreds of gallons of milk daily with tubercle bacilli, and in such cases it is not known for how long the infection has been proceeding before its detection took place.—Yours faithfully, J. HOWARD JONES.

Bridgend.
Glam.
January 24th, 1929.

Canine Distemper.

TO THE EDITOR OF THE VETERINARY RECORD.

Sir,—The discussions regarding dog distemper that have taken place recently at meetings of various societies make interesting reading. At last, thanks to Dunkin and Laidlaw, we are beginning really to know something about this disease. Early in their investigations I came across an extract from a communication of theirs which I copied out on a postcard, and this has been ever since my textbook on distemper. It reads: "Incubation four days, then temperature of about 104° with vomiting, quick respirations and lassitude. In one or two days temperature may fall to normal and dog become apparently well. Within 24-48 hours of this fall, the temperature may rise again with a few symptoms in a mild case, or the second fever may be severe with all the well-known symptoms."

With this I agree, for since I have been engaged in practice I find the course does run in this way. It is very gratifying to find that one's clinical experience is not antagonistic to the findings of scientists.

To pass to another point. In the current *Veterinary Record* Major Kirk is reported to have said that probably 90 per cent. of dogs have worms, or rather, would be found to have worms on *post-mortem* examination. I do not agree with this. My experience is that not many dogs are found to have worms when examined dead. A year or two ago I examined twelve carcases, consecutively, and found a total of four small ascarides in two of them. Eminent veterinarians seem to be agreed that these parasites do not harm their hosts, but the lesser lights of the profession and the unqualified still pin their faith to them as money-bringers.—Yours faithfully,

BERNARD GORTON.

22 Arnewood Road.
Bournemouth,
Hants.
3rd February, 1929.

The "Burdizzo" Castrator.

TO THE EDITOR OF THE VETERINARY RECORD.

Sir,—I desire to thank those gentlemen who were good enough to reply to my enquiry *re* the Burdizzo operation in your columns, for the information they have given.—Yours truly, W. D. BLANCHARD.

Leominster,
Herefordshire.
2nd February, 1929.

The Veterinary Surgeon in Literature.

TO THE EDITOR OF THE VETERINARY RECORD.

Sir,—I should like to call attention to two references to the veterinary surgeon in literature.

In *The Case Book of Sherlock Holmes*, page 134, we find the following:—

"What is it, Mr. Holmes? The dog (a Spaniel), what's the matter with it?

"That's what puzzled the 'vet.' A sort of paralysis, spinal meningitis, he thought. But it is passing."

Again, Carlyle, in his *History of the French Revolution*, refers to the infamous Marat:—

"O thou remarkable 'Dog leech!'"

But the allusion probably here is to the fact that Marat was a physician and found out a cure for phthisis.—Yours etc., G. A. TOMLIN, Student, Class C.

Royal Veterinary College.

The Editor acknowledges the receipt of the following:—

Communications from Major H. Allen (Punjab), Messrs. H. Begg (Hamilton), W. E. Blackwell (Towcester) and H. Gray (London), Prof. J. R. Greig (Edinburgh), Mr. D. S. Jack (King's Lynn), Major H. Kirk (London), Dr. F. C. Minett (London), Mr. N. G. Mitchie (Liverpool), Major-General Sir John Moore (London), Capt. A. W. Noel Pillers (Liverpool), and Major R. F. Wall (London).